Volume V of V, Appx11371 to Appx13876 No. 23-1922

In the United States Court of Appeals for the Federal Circuit

BEARBOX LLC, AUSTIN STORMS,

Plaintiffs-Appellants,

V.

LANCIUM LLC, MICHAEL T. McNAMARA, RAYMOND E. CLINE, JR.,

Defendants-Appellees.

Appeal from the United States District Court for the District of Delaware, No. 1:21-cv-00534-GBW-CJB
The Honorable Gregory B. Williams

CORRECTED JOINT APPENDIX

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INDEX OF JOINT APPENDIX

Document Description	Date	Docket/ Exhibit No.	Appx Pages
March 6, 2023 Opinion regarding bench trial	2023-03-06	D.I. 262	Appx1-59
Final Judgment entered 04/05/2023	2023-04-05	D.I. 267	Appx60-62
November 14, 2022 Memorandum Opinion (re: summary judgment)	2022-11-14	D.I. 230	Appx63-89
November 14, 2022 Order (re: summary judgment)	2022-11-14	D.I. 231	Appx90-91
November 23, 2022 Memorandum Order (granting motion to strike)	2022-11-23	D.I. 247	Appx92-97
U.S. Patent No. 10,608,433	2020-03-31	TX001	Appx100-149
Civil Docket Sheet for Case No. 1:21-cv-00534-GBW-CJB			Appx150-191
COMPLAINT filed with Jury Demand against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2021-04-14	D.I. 1	Appx192-266
AMENDED COMPLAINT against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara- filed by Austin Storms, BearBox LLC.	2021-05-24	D.I. 19	Appx623-713
AMENDED ANSWER to 19 Amended Complaint,, COUNTERCLAIM against BearBox LLC, Austin Storms by Michael T. McNamara, Raymond E. Cline, Jr, Lancium LLC.	2021-06-25	D.I. 28	Appx1101-1102
SCHEDULING ORDER	2021-07-06	D.I. 35	Appx1431-1440
ANSWERING BRIEF in Opposition re 32 MOTION for Judgment on the Pleadings filed by BearBox LLC, Austin Storms.	2021-07-19	D.I. 42	Appx1476

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Letter to The Honorable Maryellen Noreika from Andrew C. Mayo regarding joint status report in connection with request for claim construction hearing.	2021-08-31	D.I. 54	Appx1501
Letter to Judge Christopher J. Burke from Chad S.C. Stover regarding Claim Construction.	2021-10-15	D.I. 63	Appx1537
REPORT AND RECOMMENDATIONS re 32 MOTION for Judgment on the Pleadings	2022-01-18	D.I. 92	Appx1615-1623
ORDER ADOPTING 92 REPORT AND RECOMMENDATION GRANTING 32 Motion for Judgment on the Pleadings	2022-02-02	D.I. 97	Appx1630
Second AMENDED COMPLAINT against Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-02-16	D.I. 103	Appx1631-1734
Letter to The Honorable Christopher J. Burke from Andrew C. Mayo regarding response to motion to strike	2022-03-10	D.I. 113	Appx1848
OPENING BRIEF in Support re 120 MOTION to Dismiss	2022-03-16	D.I. 121	Appx2024-2041
REPORT AND RECOMMENDATION	2022-05-26	D.I. 143	Appx2339
OBJECTION to 143 Report and Recommendations by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara.	2022-06-09	D.I. 146	Appx2506-2567
OPENING BRIEF in Support re 148 MOTION for Summary Judgment	2022-06-15	D.I. 149	Appx2611-2656

Document Description	Date	Docket/ Exhibit No.	Appx Pages
CONCISE STATEMENT of Undisputed Material Facts re 148 MOTION for Summary Judgment by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-06-15	D.I. 150	Appx2660
DECLARATION OF Adam M. Kaufmann re 150 Statement, 148 MOTION for Summary Judgment	2022-06-15	D.I. 151	Appx2681 Appx2722 Appx2733-2734 Appx2739 Appx2741-2742 Appx2748-2751 Appx2754-2755 Appx2761-2762 Appx2774 Appx2777 Appx2810 Appx2827 Appx2840-2841 Appx2856 Appx2856 Appx2858-2859 Appx2899-2900 Appx2939 Appx2945-2946 Appx2950 Appx2963-3030
REDACTED VERSION of 149 Opening Brief in Support	2022-06-29	D.I. 163	Appx3450
ANSWERING BRIEF in Opposition re 148 MOTION for Summary Judgment filed by BearBox LLC, Austin Storms	2022-07-19	D.I. 176	Appx4260 Appx4265 Appx4271-4273 Appx4282
STATEMENT re 150 Statement // Plaintiffs' Response to Defendants' Concise Statement of Facts in Support of Defendants' Motion for Summary Judgment by BearBox LLC, Austin Storms	2022-07-19	D.I. 177	Appx4290

Document Description	Date	Docket/ Exhibit No.	Appx Pages
DECLARATION of Chelsea Murray re 176 Answering Brief in Opposition by BearBox LLC, Austin Storms	2022-07-19	D.I. 179	Appx4691 Appx4693-4696 Appx4843-4856
REPLY BRIEF re 148 MOTION for Summary Judgment filed by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-07-29	D.I. 195	Appx5618-5624
DECLARATION of Adam M. Kaufmann re 195 Reply Brief by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-07-29	D.I. 196	Appx5678 Appx5751-5753 Appx5846 Appx5850
REDACTED VERSION of 195 Reply Brief	2022-08-05	D.I. 206	Appx5916
Letter to The Honorable Gregory B. Williams from Chad S.C. Stover regarding Defendants' request for oral argument re: their summary judgment and Dabuert motions	2022-09-28	D.I. 209	Appx5952-5953
Letter to The Honorable Gregory B. Williams from Andrew C. Mayo regarding response to Defendant's September 28, 2022 letter	2022-09-29	D.I. 210	Appx5954
MEMORANDUM OPINION	2022-10-07	D.I. 212	Appx5957-5964
ORDER re 212 MEMORANDUM OPINION	2022-10-07	D.I. 213	Appx5965
MEMORANDUM OPINION re claim construction	2022-10-28	D.I. 218	Appx6005-6020
ORDER re 218 Memorandum Opinion regarding claim construction	2022-10-28	D.I. 219	Appx6021
MOTION to Bifurcate	2022-10-31	D.I. 222	Appx6024-6026
OPENING BRIEF in Support re 222 MOTION to Bifurcate	2022-10-31	D.I. 223	Appx6027-6043
ANSWERING BRIEF in Opposition re 222 MOTION to Bifurcate	2022-11-10	D.I. 229	Appx6062-6073

Document Description	Date	Docket/ Exhibit No.	Appx Pages
ORAL ORDER	2022-11-14	D.I. 232	Appx6074-6075
Letter to The Honorable Gregory B. Williams from Chad S.C. Stover regarding Defendants' Opening Letter Brief in Support of its Emergency Motion to Stike Plaintffs' Newly Disclosed, Untimely Expert Report and Request for Expedited Briefing - re 236 MOTION to Strike	2022-11-15	D.I. 237	Appx6089-6191
Proposed Pretrial Order by BearBox LLC, Austin Storms	2022-11-15	D.I. 239	Appx6216 Appx6639-6653s
Letter to The Honorable Gregory B. Williams from Andrew C. Mayo regarding response to defendants' motion to strike	2022-11-18	D.I. 241	Appx6744-6940
REDACTED VERSION of 237 Letter,, by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2022-11-22	D.I. 246	Appx6974-6975
POST TRIAL BRIEF by BearBox LLC, Austin Storms	2023-01-11	D.I. 256	Appx7104-7105 Appx7107-7120
Proposed Findings of Fact by BearBox LLC, Austin Storms	2023-01-11	D.I. 257	Appx7132 Appx7150
POST TRIAL BRIEF (Response) by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2023-01-25	D.I. 258	Appx7163-7165
Proposed Findings of Fact by Raymond E. Cline, Jr, Lancium LLC, Michael T. McNamara	2023-01-25	D.I. 259	Appx7189-7196
POST TRIAL BRIEF (Reply) by BearBox LLC, Austin Storms	2023-02-01	D.I. 260	Appx7219
ANSWERING BRIEF in Opposition re 269 MOTION for Attorney Fees and Expenses	2023-05-03	D.I. 273	Appx7484
NOTICE OF APPEAL to the Federal Circuit of 267 Judgment	2023-05-04	D.I. 274	Appx7973-7974

Document Description	Date	Docket/ Exhibit	Appx Pages
	10/5/000	No.	
Trial Transcript (Volumes I - III)	12/6/2022		Appx8005
	through		Appx8007
	12/8/2022		Appx8010
			Appx8017-8026
			Appx8029-8030
			Appx8033-8035
			Appx8037-8046
			Appx8048-8059
			Appx8060
			Appx8063
			Appx8069
			Appx8070
			Appx8073
			Appx8075
			Appx8077
			Appx8080-8081
			Appx8084-8088
			Appx8090-8091
			Appx8098-8101
			Appx8104-8108
			Appx8111-8112
			Appx8115-8136
			Appx8141-8153
			Appx8155-8156
			Appx8160-8162
			Appx8165-8166
			Appx8168-8169
			Appx8171
			Appx8173-8174
			Appx8178-8183
Defendants' 2nd Supplemental			
Response to Plaintiffs'	2021-12-23	TX005	Appx8842-8878
Interrogatories (Nos. 3)			
WO2019139632A1	2019-07-18	TX013	Appx8879-8922
Text Message Conversation between		TX014	Appv8022 8004
A. Storms and B. Hakes		17014	Appx8923-8994

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Layer1 Claim Chart regarding U.S. Patent No. 10,608,433, Ex. H to Complaint (D.I. 1-8)(20-cv-00739) (exhibit as used at depositions)	2020-08-14	TX017	Appx9003-9028
Email from Austin Storms to Jason re Fwd: code with attachments PTX130 through PTX141	2019-04-29	TX020	Appx9061
denis_logic.py	2021-02-16	TX022	Appx9109
arb_main_AEC.py	2019-05-01	TX024	Appx9110
Message Report – Text messages between A. Storms and M. McNamara during May 4, 2019 through May 9, 2019	2019-05-04	TX052	Appx9137
Presentation, Lancium – Powering the Future of Computing	2019-08-19	TX091	Appx9234
Email from M. McNamara to R. Cline Fwd: Lancium Smart Response/September Thomas Road Power Reconciliation	2019-10-25	TX096	Appx9274
Email from M. McNamara to R. Cline re Thomas Road Power and attachments	2019-08-16	TX107	Appx9310-9312
Email from M. McNamara to R. Cline Re: ADK_LDI – Lancium LR Awards	2019-09-01	TX111	Appx9318
Initial Purchase Agreement between Lancium and Calpine for Thomas Road Facility		TX122	Appx9361-9362
PowerPoint - BTIG, Lancium Investor Presentation	2021-05-00	TX125	Appx9366-9411
5005.JPG (image with metadata)	2018-11-29	TX128	Appx9412-9413
5005.JPG (image with metadata)	2018-12-02	TX129	Appx9414-9415
5005.JPG (image with metadata)	2019-01-07	TX130	Appx9416-9417
IMG_0496.JPG (image with metadata)	2019-01-24	TX131	Appx9418-9419

Document Description	Date	Docket/ Exhibit No.	Appx Pages
IMG_0497.HEIC (image with metadata)	2019-01-24	TX132	Appx9420-9421
IMG_7517.jpeg (image with metadata)	2019-03-02	TX134	Appx9422-9423
574293043536E0371C9-75E8- 44E8-A81D-AFBB30CF06BC.JPG (image with metadata)	2019-03-14	TX138	Appx9424-9425
577760072342BB185B5-C6C7- 46CD-B355-A20A49854F4D.JPG (image with metadata)	2019-04-23	TX143	Appx9434-9435
Email from Austin Storms to Denis Labij re Day-ahead vs. RTBM LMP biz requirements and data questions with attachment (lmp_model_04252019.csv)	2019-04-24	TX146	Appx9444-9453
Email from Austin Storms to Denis Labij re Day-ahead vs. RTBM LMP biz requirements and data questions	2019-04-26	TX149	Appx9454-9455
Email from Austin Storms to Michael McNamara re BearBox 20' product details and supporting documentation with attachments (BearBox Product Details Summary v1.pdf; Permatron_Spec_Sheet.pdf; CamFil_Spec_Sheet.pdf; JandD_Spec_Sheet.pdf; exelon4_modeling_05092019.xlsx)	2019-05-09	TX157	Appx9631-9635
International Application Published Under PCT - WO 2019/139632 A1 Method and System for dynamic Power Delivery to a Flexible Datacenter Using Un-utilized Energy Sources	2019-07-05	TX163	Appx9711-9754
Patent Application File 162927119.pdf	2021-09-07	TX167	Appx11232-11363

Document Description	Date	Docket/ Exhibit No.	Appx Pages
BearBox_Product_Details_Summary_v1.pdf	2019-05-09	TX171	Appx11371-11372
Permatron_Spec_Sheet.pdf	2015-03-02	TX172	Appx11373
CamFil_Spec_Sheet.pdf	2018-12-08	TX173	Appx11374
JandD_Spec_Sheet.pdf	2019-04-01	TX174	Appx11375-11376
exelon4_modeling_05092019.xlsx	2019-05-09	TX175	Appx11377-11393
Email Lancium / SBI Update - Sept 27th	2018-09-27	TX176	Appx11394-11395
EDFR- Lancium_Hereford_Terms_Summar y DRAFT 20180926.docx	2018-09-27	TX177	Appx11396-11400
Acciona_2018SEP19_Site_Visit.pdf	2018-09-20	TX178	Appx11401-11407
ServiceNow_Location_Entry.png		TX179	Appx11408-11409
Tier44_Power_Management_Dashb oard.png		TX180	Appx11410
Email Demo Day Script	2018-08-26	TX189	Appx11411-11412
Email Got it!	2018-06-28	TX190	Appx11413
Email Re: Other Thomas Investment	2018-10-12	TX222	Appx11567
dashboard_content.pptx	2018-10-11	TX223	Appx11568
Lancium Deck - I Squared v5_1IZ8uVYKObIZVDbZItnXEz-MJYT6wmTrr.pptx	2018-01-31	TX266	Appx11601 Appx11606
Email Re: Lancium (ADK_LD1) LR	2019-08-28	TX310	Appx11632-11638
Lancium_Control_Narrative Draft 2019-05-01.pdf	2019-05-02	TX320	Appx11639 Appx11656-11658
Miner Field Ops Kick Off.pptx	2021-09-29	TX345	Appx11734
Email Re: 1803343 Lancium Data Box - Design Basis	2018-05-11	TX371	Appx11759
Email Re: Introductions	2017-12-05	TX372	Appx11766
Email Deck	2017-12-27	TX373	Appx11767
Lancium_Investor_Deck_Q118_v1.p	2017-12-27	TX374	Appx11768-11796
Email LR DEMAND RESPONSE PRESENTATION 2019.pptx	2019-05-18	TX437	Appx11797
LR_DEMAND_RESPONSE_PRES ENTATION_2019.pptx	2019-05-17	TX438	Appx11807-11809

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Email BAML deck	2018-03-29	TX462	Appx11817
Lancium - BAML April 10th.pptx	2018-03-29	TX463	Appx11828
Email Countersigned EMS attached	2019-07-15	TX496	Appx12329
Countersigned_EMS_Lancium_0715 19.pdf	2019-07-15	TX497	Appx12337
Email Re: FW: Real-Time LMP	2019-04-22	TX501	Appx12342-12343
Email MP2 Demand Response	2019-08-27	TX526	Appx12344
Email Thomas Road Power	2019-08-16	TX567	Appx12348
Email Re: Checking / New Mexico Wind Energy Center	2018-02-07	TX594	Appx12350
Email Re: ADK_LD1 - Lancium LR Awards.xlsx	2019-09-04	TX595	Appx12352-12356
Email Re: ERS	2019-05-14	TX626	Appx12358
Email Re: LR DEMAND RESPONSE PRESENTATION 2019.pptx	2019-05-18	TX740	Appx12395-12396
Lancium_Introduction_and_Overvie wMay_2019.pdf	2019-05-08	TX741	Appx12397-12426
751f8045-9c06-4c58-b83f- f1d98c859e00.json		TX742	Appx12427-12428
Email Re: Meeting tomorrow	2019-05-06	TX748	Appx12431-12432
Lancium_Introduction_and_Overvie wApril_2019.pdf	2019-04-10	TX749	Appx12433-12462
Lancium_Standard_Mutual_NDAd oc	2019-05-06	TX750	Appx12463-12465
Email Fwd:ERCOT Energy Curves Have Been Updated	2019-08-14	TX756	Appx12466-12468
Lancium_August_2019_Renewal 24 months.docx	2019-08-14	TX757	Appx12469-12471
Email Re: Calpine forecast for CP days	2019-08-05	TX758	Appx12472-12473
Weighted Average Cost of Energy (WACOE) - if you fix power at \$33 and sell back at any price over \$100.	2019-08-06	TX763	Appx12474
Lancium_Sellback_Sensitivity_Anal ysis.xlsx	2019-08-06	TX764	Appx12475-12478

Document Description	Date	Docket/ Exhibit No.	Appx Pages
Emails between Michael McNamara to Eric Kutscha, Jon Cohen, Raymond Cline attaching BearBox product details summary and specification sheets	2019-05-09	TX770	Appx12946
Email Jon Cohen to Michael McNamara	2018-10-16	TX781	Appx13030
Email from Austin Storms to Michael McNamara attaching BearBox product details summary and spec sheets	2019-05-09	TX887	Appx13323-13339
Storms Tweets - BearBox	11/1/2018 - 5/16/2019	TX901	Appx13353
Email from Austin Storms to Rajiv Patel and Michael Sacksteder attaching BearBox product details summary	2019-08-20	TX906	Appx13371-13396
Email from Austin Storms to Todd Garland Re: Fwd: EXELON DATA MODELING DUMP 2	2019-05-06	TX919	Appx13408-13409
Email from Austin Storms to Todd Garland with attachments Fwd: EXELON DATA MODELING DUMP 2	2019-05-03	TX920	Appx13411-13447
Email from Austin Storms to Ben Hakes attaching NDA Confidentiality Agreement	2018-12-10	TX932	Appx13450
Text message string	2020-08-03	TX957	Appx13565
Email chain between Dennis Labi, Austin Storms, Mike Hoadley, Chris Vickery, and Benjamin Hakes RE Day-ahead vs. RTBM LMP biz requirements and data questions	2019-04-25	TX962	Appx13566-13567
Lancium_Data_Box Design_Basis_20180511_R3	2018-05-11	TX979	Appx13568-13569
Email re: ADK_LD1 - Lancium.xlsx	2019-08-26	TX981	Appx13570

Document Description	Date	Docket/ Exhibit No.	Appx Pages
ADK_LD1Lancium.xlsx	2019-08-26	TX982	Appx13571
Curriculum Vitae of Frank McCamant			Appx13572-13576
Metadata for exelon4_modeling_05092019(1).xls x		TX984	Appx13577-13586
Transcript of Telephonic Motion Hearing regarding Joint MOTION for Teleconference to Resolve Discovery Dispute; and Motion to Strike Amended Complaint	2022-04-22		Appx13647 Appx13653
Transcript of Markman Hearing	2022-10-20		Appx13804 Appx13821 Appx13828 Appx13835
Transcript of Pretrial Conference	2022-11-29		Appx13858-13876



Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar)

Physical Dimensions

o Exterior: 20'L x 8' W x 8'6"H

o Interior: 19'4"L x 7'8"W x 7'9"H

o Door Opening: 7'8"W x 7'5"H

o Weight: 4,900 lbs. + installed equipment

Electrical System

- o 3-Phase, 4-Wire 415Y/240v
- o Remote dual-outlet control PDUs (64.8kW total)
- o All network infrastructure on UPS/battery backup
- o ~373kW max load

Physical Rack System

- Custom laser cut aluminum frame with stainless wire deck shelving
- Adjustable in 1" increments

Cooling System

- o Convection air cooled
- o (8) 10,100 CFM direct-drive, single-phase exhaust fans (see attached)
- o Temperature controlled/software automation, remote on/off

Air Filtration System

- o Option 1: Permatron Model U2 (see attached)
- o Option 2: Camfil V-Bank Glide/Pack (see attached)
- o Intake-side adjustable pitch weather shield

• Total Designed Hashrate

- o 272 miners @ 14.5 TH/s each
- o 3.9 PH/s total

Network

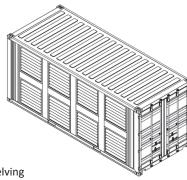
- o Cat5e ethernet
- 48-port unmanaged switches (CISCO, TP-Link, or other)
- o On-site WAN or satellite (varies by location)

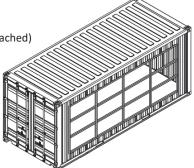
• Software Management

- Local cgminer watchdog
- o PostgreSQL database miner logging
- PDU/relay mapping (full automation)
- Optional real-time breakeven monitoring (renewable marketplace data)
- SMTP email alerts (restart, reboot, and maintenance required)

Summary

- o BearBox V20S (3.9 PH/s @ ~373kW max load)
- o Does **NOT** include miners or exterior electrical infrastructure (transformer)
- o Price \$86,791.51 (\$94,766.33 after 9.2% sales tax)

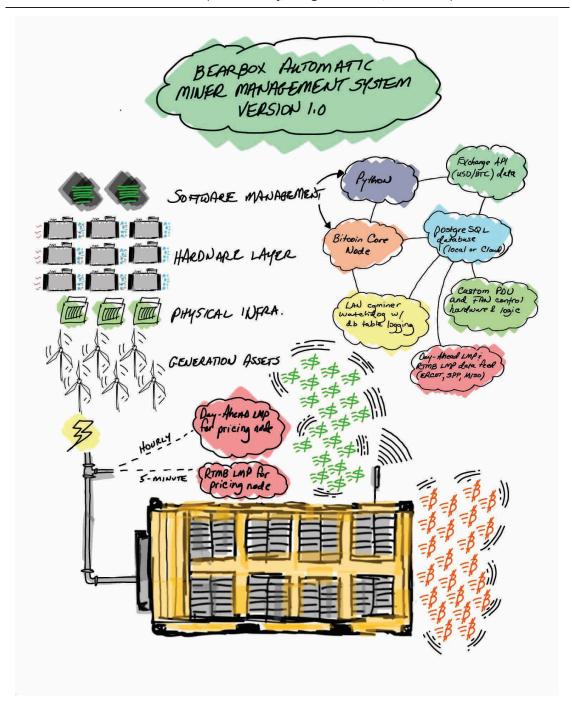




Bearbox v Lancium Trial Exhibit **TX171**



Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar) – cont.





PreVent® Model U/BHA Flexible Frame Air Intake Filter

Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of dirt and debris can cause. Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

Model BHA filter is constructed of black PVC coated polyester high abrasion media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model BHA contains one layer of media.

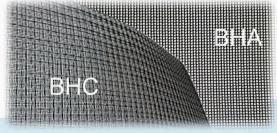
- Can be affixed to unit with hook/loop stripping, grommets with mount clips, elastic bungee hooks or magnetic stripping
- · Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folded to 1–1/4") is standard for flexible filters 0–2000 square inches
- · Sonic welded edges also available as frame option
- · UV protected black media
- U/L Classified as to Flammability Only
- 5 Year Warranty

LIT-PREVENTMODELU/BHA





Magnetic stripping inside vinyl edge available for easy installation.



	<u>U1</u>	<u>U2</u>	<u>BHA</u>
Avg. Arrestance Efficiency	42%	72%	N/A
Dust Holding Capacity	67 gm.	100 gm	N/A
Initial Air Flow Resistance	0.02" w.g.	0.05" w.g.	0.02" w.g.

www.permatron.com 1-800-882-8012 Bearbox v Lancium Trial Exhibit **TX172**

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Filter Frames & Housings

Housings (ASHRAE)

V-Bank Glide/Pack®



Advantages

- V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy
- Increases life of filters up to four times

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be operated to 625 fpm. Standard model operational to \pm 6.0" w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

Number of filters wide		1/2 Filter wide	1 Filter wide	1-½ Filters wide	2 Filters wide	2-½ Filters wide	3 Filters wide	3-½ Filters wide	4 Filters wide	4-½ Filters wide	5 Filters wide	5-½ Filters wide	6 Filters wide	Housing depth (inches)
1/2	15.25	-	2,000	-	4,000	-	6,000	-	8,000	-	10,000	-	12,000	
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50	-	6,000	-	12,000	-	18,000	-	24,000	-	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	28.00
2-1/2	63.75	-	10,000	-	20,000	-	30,000	-	40,000	-	50,000	-	60,000	28.00
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00	-	14,000	-	28,000	-	42,000	-	54,000	-	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
	Width (inches)	12	24	36	48	60	72	84	96	108	120	132	144	

Bearbox v Lancium Trial Exhibit **TX173**

1X1/3

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LANCIUM00014572

Total System Solutions

Wall Master Exhaust Fan

J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.



Features

- Available in 36" and 50" models
- Heavy duty 18 gauge galvanized housing
- Rugged X-frame for added stability on belt drive models
- Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- Lifetime Warranty on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a **Three Year Warranty**
- Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a Two Year Warranty



▲WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

—J&D Manufacturing

Wall Master Exhaust Fan



Heavy-duty X-frame - (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.



Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

28

				@0.05	"SP		
					CFM/		
Part#	Size	Phs	Spd	CFM	Watt	Drive	Prop
Single Phase							
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA
Three Phase							
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA
OSHA requires	thes	e fan	s to b	e mount	ed 7' al	bove th	e floor

Fan Size	Rough Opening
36"	41"W x 41"H
50"	543/4"W x 543/4"H

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.

Wall Master Fan Size	Weather Hood Part#
36"	VFT140860
50"	VFT140861

▲WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

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Page: 20 Filed: 01/02/2024

Fig. Prince	realized_rev	_				Ļ	1	13 9.1187513	76 4.8273176	75 2.6472769	38 2.644432	78 2.642871	93 2.6676082	82 2.6679495		2					79 2.7046292					LO.	_				7 76128911			42 2.7743811	96 2.7583257	15 2.7148565						42 2.5445855		55 2.49/1/43 86 2.50/3/87		2			7 5081486
Fig. 15 Fig. 16 Fig.	real_time_LMP_rev	0.87771	303050			6.67164	13.1730082	9.1187513	4.8273176	0.7844775	0.8364938	0.8241178	0.9204093	0.8772882			0.913648	0.9107808	0.911084	0.903376	1.42912.	0.9296789	0.722690	0.78136	0.69259	0.8626536	0.85478	1.24114	1.10651	0.66946	0.64013	0.664713	0.6587776	0.6403342	0.6300096	0.6126615	0.5878786			0.51303	0.488684	2.235124	0.77746	0.43774	0.45150	0.599625	0.44919	0.486646	ט בטטטט
A B A B A B B A B B A B		1	0.0283882	0.0256247	0.0294184	0.2156316	0.4257598	0.2947237	0.1560219	0.0253548	0.027036	0.026636	0.0297482	0.0283545	0.0263671	0.027458	0.0295297	0.029437	0.0294468	0.0291977	0.0461903	0.0300478	0.023358	0.0252541	0.022385	0.0278815	0.0276273	0.0401146	0.0357633	0.0216376	0.0206897	0.0214839	0.0212921	0.020696	0.0203623	0.0198016	0.0190006	0.0184907	0.023136	0.0165815	0.015/946	0.0722406	0.023120	0.0141462	0.0153754	0.0193804	0.0145181	0.0157287	1,000
η C β η C β <t< td=""><td>network_diff</td><td>: </td><td></td><td>\perp</td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Ш</td><td>_</td><td>_</td><td>_</td><td></td><td>_</td><td>_</td><td></td><td>_</td><td></td><td>_</td><td>_</td><td></td><td>_</td><td></td><td>_</td><td>_</td><td></td><td>1</td><td><u> </u></td><td></td><td>Ш</td><td>_</td><td></td><td></td><td></td><td>4</td><td>4</td><td>4</td><td>_</td><td>+</td><td></td><td>↓_</td><td>2 6.70217E+12</td><td>C 70017E+10</td></t<>	network_diff	:		\perp				_							Ш	_	_	_		_	_		_		_	_		_		_	_		1	<u> </u>		Ш	_				4	4	4	_	+		↓_	2 6.70217E+12	C 70017E+10
PLC DIC DIC DIC PRE PRE <td>mining_rev</td> <td>2.692879</td> <td>7 695606</td> <td>2,675792</td> <td>2.671868</td> <td>2.667290</td> <td>2.67128</td> <td>2.675245</td> <td>2.651991</td> <td>2.647276</td> <td>2.644443</td> <td>2.64287</td> <td>2.667608</td> <td>2.667949</td> <td>2.665747</td> <td>2.686022</td> <td>2.68722</td> <td>2.68762</td> <td>2.696891</td> <td>2.697310</td> <td>2.704629</td> <td>2.700428</td> <td>2.699213</td> <td>2.748141</td> <td>2.752503</td> <td>2.744790</td> <td>2.758042</td> <td>2.756490</td> <td>2.760389</td> <td>2.756340</td> <td>2.756191</td> <td>2.763240</td> <td>2.766449</td> <td>2.774381</td> <td>2.758325</td> <td>2.714856</td> <td>2.698800</td> <td>2.691729</td> <td>2.693611</td> <td>2.662029</td> <td>2.53//42</td> <td>2.544585</td> <td>2.340004</td> <td>2 50/3/8</td> <td>251534</td> <td>2.511322</td> <td>2.513006</td> <td>2.505852</td> <td>700110</td>	mining_rev	2.692879	7 695606	2,675792	2.671868	2.667290	2.67128	2.675245	2.651991	2.647276	2.644443	2.64287	2.667608	2.667949	2.665747	2.686022	2.68722	2.68762	2.696891	2.697310	2.704629	2.700428	2.699213	2.748141	2.752503	2.744790	2.758042	2.756490	2.760389	2.756340	2.756191	2.763240	2.766449	2.774381	2.758325	2.714856	2.698800	2.691729	2.693611	2.662029	2.53//42	2.544585	2.340004	2 50/3/8	251534	2.511322	2.513006	2.505852	700110
BTC, Drice Biodic, Beight Deside of the continue cost Cost Deside of the cost Designation Deside of the cost Designation <	est_network_hashrate	4.81358E+13	4.81358E+13	4.86381F+13	4.86381E+13	4.86381E+13	4.86381E+13	4.86381E+13	4.89954E+13	4.9049E+13	4.9049E+13	4.9049E+13	4.86579E+13	4.86579E+13	4.86579E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.83028E+13	4.75135E+13	4.75135E+13	4.75135E+13	4.71999E+13	4.71999E+13	4.71999E+13			4.72102E+13	4.71935E+13	4.70373E+13		4.80395E+13	4.82535E+13	4.82535E+13	4.79528E+13	4.85697E+13	5.09315E+13	5.09315E+13	3.07720E+13	5.17781E+13	5.17,01E+13	5.16041E+13	5.16041E+13	5.16041E+13	1
And Britchine Inchight breakene mining cost date inche day a head LMP 5698.24 574867 0.088360 5/6/19 11:37 0.0292715 5704.01 574867 0.088360 5/6/19 11:37 0.0292715 5704.01 574868 0.0878215 5/6/19 11:37 0.0292715 5712.77 574868 0.0875215 5/6/19 11:37 0.0292715 5712.79 574868 0.0876215 5/6/19 11:37 0.0292715 5702.98 574868 0.0875215 5/6/19 11:37 0.0292715 5702.98 574868 0.0876215 5/6/19 11:37 0.0292715 5702.98 574868 0.0876215 5/6/19 11:37 0.0319112 5702.99 574868 0.0876217 5/6/19 11:37 0.0319112 5702.90 574875 0.0876217 5/6/19 11:37 0.031965 5702.91 574876 0.0876217 5/6/19 11:37 0.031966 5702.92 574877 0.0876217 5/6/19 11:37 0.031666 5702.92	day_ahead_LMP_rev	'ıl	0.9056602	0.9056602	0.9056602	0.9056602	0.9873325	0.9873325	0.9873325	0.9873325	0.9873325	0.9873325	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9806897	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.9048279	0.6585455	0.6585455	0.6585455	0.6585455	0.6585455	0.6585455	0.6585455	0.6585455	0.0303433	0.0585455	0.6585455	0.8726101	0.8726101	0.8726101	
A B C D BTC_AA B C D BTC_ABC Bock_Leight Dreakeven_mining_cost dafetime 5698.24 574867 0.0884503 5/6/19 11:37 5704.01 574868 0.0876525 5/6/19 11:37 570.28 574868 0.0877823 5/6/19 11:30 570.29 574868 0.0877823 5/6/19 11:30 570.29 574868 0.0877823 5/6/19 11:30 570.1.53 574878 0.0877823 5/6/19 11:30 570.20 574871 0.08677823 5/6/19 12:00 570.21 574871 0.0877823 5/6/19 12:00 570.20 574876 0.0877823 5/6/19 13:00 570.21 574876 0.086736 5/6/19 13:00 570.23 574876 0.088036 5/6/19 13:00 570.24 574876 0.088038 5/6/19 13:00 570.23 574876 0.088038 5/6/19 13:00 570.24 574876 0.0880376 5/	r day_ahead_LMP		0.0292715	0.0292715	0.0292715	0.0292715	0.0319112	0.0319112	0.0319112	0.0319112	0.0319112	0.0319112	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0316965	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0292446	0.0212846	0.0212846	0.0212846	0.0212846	0.0212846	0.0212846	0.0212846	0.0212846	0.0212640	0.0212846	0.0212846	0.0282033	0.0282033	0.0282033	
A BIC_Block_ height Dreakeven_mining 5508.24 574867 5704.01 574868 5704.01 574868 5702.98 574868 5711.53 574868 5702.98 574868 5711.93 574868 5702.99 574868 5711.93 574876 5705.99 574876 5705.99 574876 5705.99 574876 5705.99 574876 5705.99 574876 5705.92 574876 5705.99 574876 5705.99 574876 5705.99 574876 5705.40 574876 5734.03 574876 5734.03 574876 5734.03 574876 5734.03 574876 5734.03 574876 5734.03 574876 5732.05 574876 5734.03 574880 5734.06 574881 5734.06		—	1 5/6/19 11:42		_	_			_				-														$\overline{}$	-			_	-							- 1	7 5/6/19 15:27	5 5/6/19 15:32		_	_					
A B BTC_Drice block height 5698.24 572867 5704.01 574867 5702.16 574868 5702.98 574868 5702.98 574868 5702.98 574868 5702.99 574876 5703.99 574876 5705.99 574876 5705.99 574876 5705.91 574876 5705.92 574876 5705.93 574876 5705.94 574876 5706.72 574876 5706.73 574876 5706.74 574876 5706.75 574876 573.40 574876 573.40 574876 573.40 574876 573.20 574876 573.20 574876 573.24 574876 573.24 574876 573.24 574878 573.24 574887 573.24 574887	oreakeven mining cost		0.0883502	0.08780.0	0.0876715	0.0875213	0.0876525	0.087782	0.087019	0.086864	0.086771	0.0867	0.087531	0.087542	0.087470;	0.088135	0.088175	0.0881886	0.0884920	0.088506	0.088746	0.0886081	0.088568	0.090174	0.090317	0.090064	0.090499	0.090448	0.090576	0.090443.	0.090438	(699060:0	0.09077	0.091035	0.0905082	0.089082	0.088555	0.088323	0.08838	0.087348	0.0832/0	0.08349	0.063307	0.0821339	0.082535	0.0824036	0.082458	0.0822241	1000000
A BTC_price 5698.24 5708.10 5702.10 5702.98 5711.53 5711.93 57	ь height	574867	574867						574869	574871			574875	574875				574876	574876				574876			574877			574878	5/48/8	574880	574880	574881	574882	574883	574885	574886				5/4891			574894	574895			574897	1
<u> </u>		4	5704 01	5721.16	5712.77	5702.98	5711.53	5719.99	5711.93		Ш						_							п)				_								Ш				5683.73						L			

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1	BTC_price	block_height	breakeven_mining_cost da	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
53	5686.59	574898	0.0828228 5,	5/6/19 16:28	0.0282033	0.8726101	5.12496E+13	2.5240987	6.70217E+12	0.0148626	0.4598488	2.5240987
54	5681.45	574899	0.0829971 5,	5/6/19 16:33	0.0282033	0.8726101	5.10957E+13	2.5294123	6.70217E+12	0.0141661	0.4382991	2.5294123
55	5684.86	574899	0.0830469 5,	5/6/19 16:38	0.0282033	0.8726101	5.10957E+13	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
26	5679.5	574899	0.0829686	5/6/19 16:43	0.0282033	0.8726101	5.10957E+13	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
22	5681.53	574901	0.0836257 5,	5/6/19 16:48	0.0282033	0.8726101	5.07124E+13	2.5485671	6.70217E+12	0.0056964	0.1762466	2.5485671
58	5689.99	574902	0.0837969 5,	5/6/19 16:53	0.0282033	0.8726101	5.06841E+13	2.5537859	6.70217E+12	0.0098804	0.3056996	2.5537859
59	5691.01		0.0831196	5/6/19 16:58	0.0282033	0.8726101		2.5331438	6.70217E+12	0.0072672	0.2248472	2.5331438
9	5699.02		0.0827156	5/6/19 17:03	0.0245371	0.7591779		2.5208339	6.70217E+12	0.0100674	0.3114854	2.5208339
61	5700.57	574905		5/6/19 17:08	0.0245371	0.7591779		2.5220451	6.70217E+12	0.0086099	0.2663903	2.5220451
62	5695.51	574906	0.0812506 5,	5/6/19 17:13	0.0245371	0.7591779		2.4761856	6.70217E+12	0.0053846	0.1665995	2.4761856
63	5694.8	574907	0.0809439 5,	5/6/19 17:18	0.0245371	0.7591779	5.25149E+13	2.4668388	6.70217E+12	0.0017196	0.0532044	2.4668388
64	5695.29	574907	9 6056080:0	5/6/19 17:23	0.0245371	0.7591779	5.25149E+13	2.467051	6.70217E+12	0.0048459	0.1499321	2.467051
65	5711.94	574907	0.0811875 5,	5/6/19 17:28	0.0245371	0.7591779	5.25149E+13	2.4742634	6.70217E+12	0.0072046	0.2229103	2.4742634
99	5717.52	574908	0.0815164 5,	5/6/19 17:33	0.0245371	0.7591779	5.23541E+13	2.4842862	6.70217E+12	0.0173188	0.5358437	2.4842862
67	5717.19	574908		5/6/19 17:38	0.0245371	0.7591779	5.23541E+13	2.4841428	6.70217E+12	0.0107967	0.3340499	2.4841428
68	5709.94	574908		5/6/19 17:43	0.0245371	0.7591779	5.23541E+13	2.4809927	6.70217E+12	0.0175668	0.5435168	2.4809927
69	5706.05	574908	0.0813529 5,	5/6/19 17:48	0.0245371	0.7591779	5.23541E+13	2.4793025	6.70217E+12	0.0040943	0.1266776	2.4793025
70	5698.01	574909	0.0821371 5,	5/6/19 17:53	0.0245371	0.7591779	5.17812E+13	2.5032013	6.70217E+12	0.0062052	0.1919889	2.5032013
71	5704.79	574909	0.0822348 5,	5/6/19 17:59	0.0245371	0.		2.5061798	6.70217E+12	0.0060673	0.1877223	2.5061798
72	5706.81	574909	0.0822639 5,	5/6/19 18:04	0.0188872		5.17812E+13	2.5070672	6.70217E+12	0.004964	0.1535862	2.5070672
73	5699.44	574910	0.0819668	5/6/19 18:09	0.0188872	0.58437	5.19018E+13	2.4980119	6.70217E+12	0.0096617	0.298933	2.4980119
74	5697.53	574910	0.0819393	5/6/19 18:14	0.0188872	0.58437	5.19018E+13	2.4971748	6.70217E+12	0.0094749	0.2931534	2.4971748
75	5693.01	574910	0.0818743 5,	5/6/19 18:19	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0097717	0.3023364	2.4951937
9/	5693.01	574910	0.0818743 5,	5/6/19 18:24	0.0188872	0.58437	5.19018E+13	2.4951937	6.70217E+12	0.0113155	0.3501016	2.4951937
77	5693.94	574911	_	5/6/19 18:29	0.0188872	0.58437		2.5248113	6.70217E+12	-0.0060949	-0.1885762	2.5248113
78	5699.57	574911	0.0829281 5,	5/6/19 18:34	0.0188872	0.58437	5.13013E+13	2.5273078	6.70217E+12	0.0003233	0.0100029	2.5273078
79	5698.15	574912	-	5/6/19 18:39	0.0188872		5.1027E+13	2.540262	6.70217E+12	0.0028852	0.0892681	2.540262
80	5693.81		\rightarrow	5/6/19 18:44	0.0188872			2.5431267	6.70217E+12	0.0066411	0.2054756	2.5431267
81	5686.01		0.0818977	5/6/19 18:49	0.0188872	0.58437		2.4959076	6.70217E+12	0.0059357	0.1836506	2.4959076
82	5685.94	574915	0.0814507	5/6/19 18:54	0.0188872	0.58437		2.4822846	6.70217E+12	-0.0011344	-0.0350983	2.4822846
83	5683.4	574915	_	5/6/19 18:59	0.0188872	0.58437	5.21069E+13	2.4811757	6.70217E+12	0.0001905	0.0058941	2.4811757
84	5694.85		0.0815784	5/6/19 19:04	0.0193163	0.5976463	5.21069E+13	2.4861744	6.70217E+12	0.0002833	0.0087653	2.4861744
85	5721.14	574915	0.081955	5/6/19 19:09	0.0193163	0.5976463	5.21069E+13	2.4976517	6.70217E+12	0.0025406	0.0786062	2.4976517
86	5732.53	574915	_	5/6/19 19:14	0.0193163	0.5976463	5.21069E+13	2.5026242	6.70217E+12	0.0016449	0.0508932	2.5026242
87	5732.74	574915		5/6/19 19:19	0.0193163	0.5976463	5.21069E+13	2.5027159	6.70217E+12	0.0041178	0.1274047	2.5027159
88	5730.2	574915		5/6/19 19:24	0.0193163	0.5976463	5.21069E+13	2.501607	6.70217E+12	-0.000019	-0.0005879	2.501607
89	5737.27			5/6/19 19:29	0.0193163	0.5976463		2.5046935	6.70217E+12	-0.0002028	-0.0062746	2.5046935
90	5731.74			5/6/19 19:34	0.0193163	0.5976463		2.5022793	6.70217E+12	0.0002309	0.007144	2.5022793
91	5727.94		_	5/6/19 19:40	0.0193163	0.5976463	5.21069E+13	2.5006204	6.70217E+12	0.0130869	0.4049087	2.5006204
95	5741.23			5/6/19 19:45	0.0193163	0.5976463	5.21069E+13	2.5064223	6.70217E+12	0.0122933	0.3803547	2.5064223
93	5740.52			5/6/19 19:50	0.0193163	0.5976463	5.21069E+13	2.5061123	6.70217E+12	0.0089193	0.2759631	2.5061123
94	5749.19		-	5/6/19 19:55	0.0193163	0.5976463		2.6416525	6.70217E+12	0.0021355	0.0660724	2.6416525
95	5745.01	574916	0.086617 5,	5/6/19 20:00	0.0241251	0.7464306	4.9508E+13	2.6397319	6.70217E+12	-0.001813	-0.0560942	2.6397319
96	5763.99	574916	0.0869032 5,	5/6/19 20:05	0.0241251	0.7464306		2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68		_	5/6/19 20:10	0.0241251	0.7464306		2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917		5/6/19 20:15	0.0241251	0.7464306		2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
66	5755.39	574917	\vdash	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917	0.0879887 5,	5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.0161407	-0.4993933	2.6815363
101				5/6/19 20:30	0.0241251	0.7464306		2.6894587	6.70217E+12	-0.0174708	-0.5405466	2.6894587
102				5/6/19 20:35	0.0241251	0.7464306		2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918	0.0888956 5/6/19 20:40	/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749

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1 B 104 105 106		block_height	breakeven_mining_cost	datetime	day ahead LMP	you DIVI beade yet	act notwork hachrate	mining rev	network diff	real time LMP	time I MD rev	realized rev
00 00 00 00 00 00 00 00 00 00 00 00 00						71	est_network_nashrate	ļ	4		real_time_LIMP_rev	במוודרת
35 25	5755.49		0.0889465	_	0.0241251	0.7464306		2.7107244				2.7107244
90 22	5762.02	574919	0.0902091	5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
70	5760.7	574919	0.0901884	5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7485729	6.70217E+12		-0.0294178	2.7485729
9	5762.49		0.0902164		0.0175071	0.5416697		2.749427			0.0218839	2.749427
ρ	5774.99		0.1001885		0.0175071	0.5242793		2.9553058			-0.039287	2.9553058
109	5844.99		0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216		0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99		0.1031216		0.0175071	0.5242793		3.0418256			-0.3538408	3.0418256
112	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923	0.1041911	5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979	5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149	5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116	5924.06	574925	0.105749	5/6/19 22:07	0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	-0.0183554	-0.549683	3.1193265
117	5904.4	574925	0.105398	3 5/6/19 22:15	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
118	5904.4	574925	0.105398	3 5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68		0.1057464		0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516		0.0137884	0.4129166		3.0397615	6.70217E+12		-0.0478458	3.0397615
125	5904.02		0.1030516	5/6/19 22:30	0.0137884	0.4129166		3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930	0.1031447	5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05		0.1030511	-	0.0137884	0.4129166		3.0397468	6.70217E+12	-	-0.8682197	3.0397468
128	5897.36		0.1031265		0.0137884	0.4129166		3.04197	6.70217E+12		-0.7095114	3.04197
129	5899.22		0.1032757	_		0.4129166		3.046371	_		-0.466024	3.046371
130	5901.5		0.1033156	_	0.0137884	0.4129166		3.0475484			-0.6461502	3.0475484
131	5895.01		0.1028817	2	0.0137884		4	3.0347496		Ť	-0.5657075	3.0347496
132	5882.85		0.1003326		0.0098383			2.9595589			-0.0794186	2.9595589
133	5891.99		0.1004885	4	0.0098383	0.2946243	4.8263E+13	2.9641571	4	0.0003922	0.0117451	2.9641571
134	5896.7		0.1020246	_	0.0098383	0.2946243		3.0094662	_		0.3283412	3.0094662
135	5903.84		0.1021481		0.0098383	0.2946243		3.0131102				3.0131102
136	5911.06		0.102273		0.0098383	0.2946243		3.0167951		Υ		3.0167951
137	5885.39		0.1028414	_		0.2946243		3.0335618	_	-0.005721	-0.1713249	3.0335618
138	5895.99		0.1030267	_	0.0098383	0.2946243		3.0390254	_		0.1613227	3.0390254
139	5897.07		0.1030455	_	0.0098383	0.2946243		3.0395821	_		0.2723979	3.0395821
140	5898.51		0.1030707	_		0.2946243		3.0403243			0.0012458	3.0403243
141	5901.99		0.1031315		0.0098383	0.2946243		3.0421181		- 1	0.0066392	3.0421181
142	5889.59		0.1043197		0.0098383	0.2946243	4.64716E+13	3.0771656			-0.0798737	3.0771656
143	5889.01		0.1040736		0.0098383	0.2946243		3.0699085			-0.0099034	3.0699085
144	5877.69		0.1038736		0.0105202	0.3150449		3.0640074			-0.0090169	3.0640074
145	5889.43	574948	0.1042298	3 5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449		3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4		0.1038399	5/7/19 1:17	0.0105202	0.3150449		3.0630149	6.70217E+12		0.275159	3.0630149
148	5883.85		0.1044213		0.0105202	0.3150449		3.0801634			0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449	4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
151	5880.51		0.104362		0.0105202	0.3150449		3.0784149	_		0.3422844	3.0784149
152	5887.56		0.1056193		0.0105202	0.3150449		3.1155019	4		0.4732502	3.1155019
153	5888.94		0.1056441	_	0.0105202	0.3150449		3.1162321	_		0.4165042	3.1162321
154	5890.07	574951	0.1056643	5/7/19 1:52	0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301

L L	33		0.4175643 3.0770561	7				0.3609831 3.0506298	0.3860904 3.0538003	0.4224397 3.0554454	0.4231584 3.0598705	0.4224486 3.1194692	0.5657704 3.1098919	0.4779967 3.1173937		0.3706529 3.1141242	0.3139549 3.1134247	0.405394 3.1098266	0.4260602 3.1113899		0.4273868 3.1145534	0.425644 3.1139758	0.3739889 3.2168461			0.359929 3.1937442	0.3494207 3.1873313	0.3858029 3.2037267	0.3395563 3.2045387	~					0.4977855 3.1981835	0.4331156 3.1952584	0.4403358 3.2021242		1	92673 3.2268423	0.4386827 3.2284315		0.4658623 3.1848344	0.4034894 3.1841275			Ш		
24																									0															0.469267									
real time IMD	3		2 0.0139436					2 0.0120542	2 0.0128926	2 0.0141064	2 0.0141304	2 0.0141067	2 0.0188926			2 0.0123771	2 0.0104838	2 0.0135372	2 0.0142273		2 0.0142716	2 0.0142134	2 0.0124885		2 0.0125425	2 0.012019	2 0.0116681	2 0.012883					0		2 0.0166224	2 0.0144629	0.014704			2 0.0156701	2 0.0146488			2 0.0134736		0.0152040			
- notwork diff	23		51 6.70217E+12			_	\Box	98 6.70217E+12	3 6.70217E+12	54 6.70217E+12)5 6.70217E+12	32 6.70217E+12	9 6.70217E+12	37 6.70217E+12	Ш	12 6.70217E+12	17 6.70217E+12	36 6.70217E+12	9 6.70217E+12	_	34 6.70217E+12	8 6.70217E+12	51 6.70217E+12	9 6.70217E+12		12 6.70217E+12	13 6.70217E+12	37 6.70217E+12	37 6.70217E+12						35 6.70217E+12	34 6.70217E+12	12 6.70217E+12			3 6.70217E+12	LS 6.70217E+12	3 6.70217E+12	4 6.70217E+12	75 6.70217E+12	3 6.70217E+12	3 6 70217F+12			$\perp \perp \perp$
H Minim	_		13 3.0770561		_	\perp	_	13 3.0506298	13 3.0538003	13 3.0554454	3.0598705	13 3.1194692	3.1098919	13 3.1173937		13 3.1141242	13 3.1134247	3.1098266	13 3.1113899		13 3.1145534	13 3.1139758				13 3.1937442	13 3.1873313	13 3.2037267	13 3.2045387			_			13 3.1981835	13 3.1952584				13 3.2268423	3.2284315		13 3.1848344	3.1841275	13 3.1838523	13 3.1827623			
G set network hashrate	_		4.64017E+13	4.64017E+13	4.64017E+13	4.62656E+13		4.66391E+13	4.66391E+13	4.66391E+13	4.66391E+13	4.57448E+13	4.59468E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.582E+13	4.42981E+13	4.42981E+13	4.40131E+13	4.46763E+13	4.46763E+13	4.4491E+13	4.46491E+13	4.46491E+13	4.46491E+13	4.49069E+13	4.49069E+13	4.49069E+13	4.49069E+13	4.49069E+13	4.47887E+13	4.47887E+13	4.44875E+13	4.44875E+13	4.433E+13	4.433E+13	4.49963E+13	4.49963E+13		4.49963F+13			
F day ahead IMP rev	0.3150449	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3407332	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3312281	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.3965657	0.4911134	0.4911134	0.4911134	0.4911134	0.4911134	0.4911134	0.4911134	0.4911134	0.4911134		0.4911134	0.4911134 0.4911134
E Labora IMD								0.011378	0.011378	0.011378	0.011378		0.011378	0.0110606		0.0110606	0.0110606	0.0110606	0.0110606		0.0110606		0.0110606	0	J	0.0132424	Ŭ)	0.0132424					J	0.0132424	0.0132424				0.0163996	0.0163996	0.0163996	0.0163996	0.0163996	0.0163996	0.0163996			
D			5/7/19 2:07			_	_	5/7/19 2:32	5/7/19 2:37	5/7/19 2:42	5/7/19 2:47	5/7/19 2:52	5/7/19 2:57	5/7/19 3:02		5/7/19 3:12	5/7/19 3:17	5/7/19 3:22	5/7/19 3:27	_	5/7/19 3:37	5/7/19 3:42	5/7/19 3:47	5/7/19 3:52		5/7/19 4:02	5/7/19 4:07	5/7/19 4:12	5/7/19 4:17			_	_	_	5/7/19 4:47	5/7/19 4:52	5/7/19 4:57			5/7/19 5:12	5/7/19 5:17	5/7/19 5:22	5/7/19 5:27	5/7/19 5:32	5/7/19 5:37	5/7/19 5.42			
C breakeven mining cost	_		0.1043159			0		0.1034201	0.1035275	0.1035833	0.1037333	0.1057538	0.1054291	0.1056834		0.1055726	0.1055489	0.1054269	0.1054799		0.1055871	0.1055676	0.109055			0.1082718		0.1086102							0.1084223	0.1083231		0			0.1094478			0.1079458		0.1078995			
B block beight	574957	574953	574954			574955		574956	574956	574956	574956	574957	574958	574959		574959	574959	574959	574959	574959	574959		574960	574960		574962	574962	574963			574964	574965			574965	574965	574966				574968			574969	574969	574969	! ! !		
A RTC price	5887 93	5879.77	157 5880.52	۵,				162 5859.85	163 5865.94	164 5869.1	165 5877.6	166 5877.18	167 5885.01	168 5882.93		170 5876.76	171 5875.44	172 5868.65	173 5871.6		175 5877.57	176 5876.48		178 5865.34		180 5876.57		182 5870.49							189 5915.11	190 5909.7	191 5906.81	ш,		194 5912.39				198 5900.85	199 5900.34	200 5898.32			

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	٨	В	O	D	Э	Ŧ	g	I	_	ſ	×	٦
	-	block_height	breakeven_mining_cost	ö	day_ahe	day_ahead_l	est_network_hashrate	-	network_diff	real_ti	real_time_LMP_rev	realized_rev
206	5894.99						4.53842E+13	3.1537837	6.70217E+12			3.1537837
207	5888.93	574973	0.1083283	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988		4.47469E+13	3.1923187	6.70217E+12	-		3.1923187
509	5874.07				0.0219988		4.47469E+13	3.1873483	6.70217E+12			3.1873483
210	5873.01		0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12			3.1887959
211	5877.1	574977	0.1051264	1 5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91			_)		4.6575E+13	3.0673739	6.70217E+12			3.0673739
214	5887.01		0.1024096	5/7/19 6:52		0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156		4.73708E+13	3.0199837	6.70217E+12)		3.0199837
217	5901.6	574981	0.1025481	1 5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	1 5/7/197:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/197:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/197:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/197:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	-	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/197:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	-	0.7745885	2.9866604
223	5891.39	574988	0.1001624	1 5/7/197:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988		5/7/197:42	0.0252156			2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01			5/7/197:47	J	0.7551232		2.9279253	6.70217E+12			2.9279253
226	5909.89	574989		5/7/197:52)	0.7551232	4.90511E+13	2.9253909	6.70217E+12	-	0.5277651	2.9253909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486	6.70217E+12	0.2076065	6.2171227	6.2171227
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289	6.70217E+12	0.3509108	10.5086088	10.5086088
229	5885.9			5/7/198:07	0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12		31.7978378	31.7978378
230	5894.01			_	0.0276548		4.83962E+13	2.9570118	6.70217E+12		1	10.4126596
231	5901.61				0.0276548		4.83962E+13	2.9608247	6.70217E+12		6.6877255	6.6877255
232	5901.01			_	0.0276548		4.9049E+13		6.70217E+12		5.5081114	5.5081114
233	5896.99			_	0		4.9049E+13		6.70217E+12			6.2817236
234	5903.12			_	0		4.92975E+13	2.9074343	6.70217E+12			2.9074343
235	5904.99		0.0985968	_	0.0276548		4.92975E+13	2.9083554	6.70217E+12	O	0	2.9083554
236	5928.02			_	0.0276548		4.92975E+13	2.9196982	6.70217E+12		0.696799	2.9196982
237	5918.93			_	J		4.92975E+13	2.9152212	6.70217E+12	0	0.6014878	2.9152212
238	5920.48			_	J		4.92975E+13		6.70217E+12			2.9159846
239	5927.27				0.0276548		4.8761E+13		6.70217E+12			2.9514506
240	5970.03		0.0973284	_	0.0268411	0.8038015		2.8709404	6.70217E+12		0	2.8709404
241	5896.92			_	0.0268411			2.8357824	6.70217E+12			2.8357824
242	5876.01				0.0268411			2.8151949	6.70217E+12			2.8151949
243	5818.78			4	0.0268411			2.758369	6.70217E+12		0.5839211	2.758369
244	5836.61			_	0.0268411	0.8038015		2.7668213	6.70217E+12		0.5698042	2.7668213
245	5852.94			_	0.0268411			2.1/45624	6./021/E+12			2.1745624
246	5843.39				0.0268411			2.8001417	6.70217E+12			2.8001417
247	5840.9			_	0.0268411			2.7989485	6.70217E+12			2.7989485
248	5844.44			_	0.0268411			2.8006448	6.70217E+12			2.8006448
249	5831.94				_			2.7981392	6.70217E+12			2.7981392
250	5840.78		0	_	_			2.7784869	6.70217E+12		0	2.7784869
251	5839.47			_				2.7778637	6.70217E+12		0.563168	2.7778637
252	5836.55		0.0941259	_				2.7764747	6.70217E+12	-1	0.563168	2.7764747
253	5843.59		0.0942394	\rightarrow				2.7798236	6.70217E+12			2.7798236
254	5851.93							2.783791	6.70217E+12			2.783791
255	5840.6							2.7784013	6.70217E+12	0		2.7784013
256	5841.73	575003	0.0942094	5/7/19 10:18	0.0287164	0.8599605	5.10406E+13	2.7789388	6.70217E+12	0.020167	0.6039344	2.7789388

realized rev	2.8495172	2.852368	2.8731576	2.8719579	2.8734379	2.8734379	2.8730937	2.8/3093/	2.8730249	2.8730249	2.8733347	2.8788416	2.8779418	2.8779418	2.8788317	2.8788416	2.8823916	2.885563	2.889703	3.0109929	3.000843	3.0024592	3.0015415	3.0157712	3.0252654	3.0287934	3.0455122	3.0486153	3.0491221	3.0550179	3.0677806	3.0614459	3.0786681	3.0774049	3.0731761	3.0742514	3.0764699	3.0482275	3.0462932	3.0397559	3.0414678	3.0436659	3.10269	3.1027744	3.102358	14.443454	4.0222716	3.1142442	3.1120117	3.1168002
real time LMP rev	26	0.6205399	0.6044375	0.5931566	0.5994095	0.5994095	0.5994095	0.5994095	0.6038536	0.6038536	0.6038536	0.6067105	0.6067105	0.6067105	0.6136102	0.5//1322	0.5543338	0.5461943	0.5255191	0.5133607	0.4821773	0.5026129	0.5212217	0.5431696	0.5658932	0.5726821	0.5688459	0.6048388	0.7370294	0.5842145	0.5307268	0.4905893	0.4880169	0.4929281	0.6001582	0.6441947	0.6272329	0.6465665	0.5973312	0.5125492	0.4740288	0.4700698	0.5826903	0.7116436	1.0236669	14.443454	4.0222716	0.8610984	1.3255503	0.4686893
real time LMP	0.0196567	0.0207215	0.0201838	0.0198071	0.0200159	0.0200159	0.0200159	0.0200159	0.0201643	0.0201643	0.0201643	0.0202597	0.0202597	0.0202597	0.0204901	0.019272	0.0185107	0.0182389	0.0175485	0.0171425	0.0161012	0.0167836	0.017405	0.0181379	0.0188967	0.0191234	0.0189953	0.0201972	0.0246114	0.0195085	0.0177224	0.0163821	0.0162962	0.0164602	0.0200409	0.0215114	0.020945	0.0215906	0.0199463	0.0171154	0.0158291	0.0156969	0.0194576	0.0237637	0.034183	0.4823059	0.1343145	0.0287544	0.0442637	0.0156508
network diff	1	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6./021/E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6./U21/E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12
mining rev	2.8495172	2.852368	2.8731576	2.8719579	2.8734379	2.8734379	2.8730937	2.8/3093/	2.8730249	2.8730249	2.8733347	2.8788416	2.8779418	2.8779418	2.8788317	2.8/88416	2.8823916	2.885563	2.889703	3.0109929	3.000843	3.0024592	3.0015415	3.0157712	3.0252654	3.0287934	3.0455122	3.0486153	3.0491221	3.0550179	3.0677806	3.0614459	3.0786681	3.0774049	3.0731761	3.0742514	3.0764699	3.0482275	3.0462932	3.0397559	3.0414678	3.0436659	3.10269	3.1027744	3.102358	3.0985841	3.0991534	3.1142442	3.1120117	3.1168002
est network hashrate	٠13	4.97383E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.93814E+13	4.74222E+13	4.76216E+13	4.76216E+13	4.76216E+13	4.73877E+13	4.72115E+13	4.72115E+13	4.69478E+13	4.69478E+13	4.69478E+13	4.69478E+13	4.67609E+13	4.67609E+13	4.65154E+13	4.65154E+13	4.65141E+13	4.65141E+13	4.65141E+13	4.69465E+13	4.09463E+13	4.69465E+13	4.69465E+13	4.69465E+13	4.60663E+13	4.60663E+13	4.60663E+13	4.60663E+13	4.60663E+13	4.57872E+13	4.57872E+13	4.57872E+13
day ahead LMP rev	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8599605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8189605	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102789	0.8102/89	0.6102769	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418	0.7800418
day ahead LMP	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.028/164	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.0287164	0.02/34/3	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0273473	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270574	0.0270374	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477	0.0260477
datetime	5/7/19 10:23		5/7/19 10:35	5/7/19 10:35		_	_		_	_	$\overline{}$	\rightarrow	-		_			_	$\overline{}$	5/7/19 11:23	5/7/19 11:28	5/7/19 11:33	5/7/19 11:38	5/7/19 11:43	5/7/19 11:48	5/7/19 11:53	5/7/19 11:58	5/7/19 12:03	5/7/19 12:08			5/7/19 12:23						5/1/19 12:52	_			5/7/19 13:17	5/7/19 13:22	5/7/19 13:27	5/7/19 13:32	5/7/19 13:37	5/7/19 13:42	_	5/7/19 13:52	0.1056633 5/7/19 13:57
breakeven mining cost		0.0966987	0.0974035	0.0973629	0.097413	0.097413	0.09740I4	0.09/4014	0.097399	0.097399	0.0974095	0.0975962	0.0975657	0.0975657	0.0975959	0.0975962	0.0977166	0.0978241	0.0979644	0.1020763	0.1017322	0.101787	0.1017559	0.1022383	0.1025602	0.1026798	0.1032466	0.1033518	0.1033689	0.1035688	0.1040015	0.1037867	0.1043706	0.1043278	0.1041844	0.1042209	0.1042961	0.1033386	0.103273	0.1030514	0.1031095	0.103184	0.105185	0.1051878	0.1051737	0.1050458	0.1050651	0.1055767	0.105501	0.1056633
block height b	575004	575004	575005	575005	575005	575005	5/5005	5/5005	575005	575005	575005	575005	575005	575005	575005	5/2005	575005	575005	575005	275006	575007	575007	575007	575009	575010	575010	575011	575011	575011	575011	575013	575013	575014	575014	575016	575016	575016	5/5018	575018	575018	575018	575018	575019	575019	575019	575019	575019	575020	575020	575020
BTC price k	5837.26		5843.45	5841.01		5844.02												Δ,						5885.87	5882.45			5894.74	5895.72				٠,		٠,			5893.83				5885.01	5886.65	5886.81		5878.86	1 5879.94		ш,	5877.6
—	257	258	259	260	261	262	203	264	265	266	267	268	269	270	271	717	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	297	298	299	300	301	302	303	304	305	306	307

				-							
BIC_price	block_nelgnt	breakeven_mining_cost 0	datetime = 77/101100	day_anead_LIMP	day_anead_LIMIP_rev	est_network_nashrate	mining_rev	6 70217E±12	real_time_LIVIP	real_time_LIMP_rev	realized_rev
5873 1			5/7/19 14:02	0.025584			3 1529297	6 70217E+12	0.0212308		3 1529297
5856.76		-	5/7/19 14:12	0.025584			3.1441577	6.70217E+12	0.0161145		3.1441577
5835.32		_	5/7/19 14:17	0.025584	0.7661555		3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
5823.7		.	5/7/19 14:22	0.025584			3.1264097	6.70217E+12	0.0232619		3.1264097
5823.9			5/7/19 14:27	0.025584			3.1265171	6.70217E+12	0.0186602		3.1265171
5844.51		_	5/7/19 14:32	0.025584			3.1375814	6.70217E+12	0.0221179		3.1375814
5852.73		_	5/7/19 14:37	0.025584	0.7661555		3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160024
5842.59			5/7/19 14:42	0.025584			3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
5844.51			5/7/19 14:47	0.025584			3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
5842.77		-	5/7/19 14:52	0.025584			3.2244517	6./UZ1/E+12	0.0082441	0.2468833	3.224451/
5843.27		_	5///19 14:5/	0.025584		4.39963E+13	3.224/2//	6.70217E+12	0.0080116	0.2399207	3.224/2//
5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823		3.7251913	6 702175+12	0.0041/2	0.1249373	3.228359
5838.69		_	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
5843.57		_	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
5844.59			5/7/19 15:22	0.0200751	0.6011823		3.2254562	6.70217E+12	0.0173942		3.2254562
5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
5861.7			5/7/19 15:42	0.0200751			3.2348987	6.70217E+12	0.0164337		3.2348987
5871.48		\rightarrow	5/7/19 15:47	0.0200751	0.6011823		3.3759101	6.70217E+12	0.0172669		3.3759101
5859.1		_	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
5854.1			5/7/19 15:57	0.0200751			3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
5843.22			5/7/19 16:02	0.0216225			3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
5853.43		_	5/7/19 16:07	0.0216225			3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
5856.16		_	5/7/19 16:12	0.0216225			3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
10.UCOC		_	3/1/19 16:22	0.0216223			3.3010327	6 702175412	0.0156107	9000000	3.3010327
5074.02 5255 9		_	5/1/19 16:27	0.0216225			3.4316944	6 702175+12	0.0156102	0.4674753	3.4316944
5856 74		_	5/7/19 16:37	0.0216223			3 3709755	6 70217E+12	0.0163249	0.4666783	3 3709755
5868.02			5/7/19 16:42	0.0216225	0.6475218		3.3774679	6.70217E+12	0.0151098	0	3.3774679
5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218		3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
5871.99		0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
5880.77		0.1147491	5/7/19 16:57	0.0216225	0.6475218		3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
5886.53	575029		5/7/19 17:02	0.0204922	0.6136731		3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
5889.98	575029	0.1149288	5/7/19 17:07	0.0204922	0.6136731	4.21846E+13	3.3901075	6.70217E+12	0.0028472	0.0852641	3.3901075
5885.6	575031	0.1147437	5/7/19 17:12	0.0204922	0.6136731	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
5883.88			5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197231	0.5906411	3.3761744
5871.02		0.114058	5/7/19 17:22	0.0204922	0.6136731	4.23698E+13	3.364421	6.70217E+12	0.013771	0.4123955	3.364421
5872.05		_	5/7/19 17:27	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
5878.77	575034	0.1147072	5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
5877.4			5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
5880.39		-	5/7/19 17:42	0.0204922	0.6136731		3.3845051	6.70217E+12	0.0171643	0.5140136	3.3845051
5871.98	575034	-	5/7/19 17:47	0.0204922	0.6136731		3.3796646	6.70217E+12	0.0179472	0.5374588	3.3796646
5878.4		-	5/7/19 17:52	0.0204922	0.6136731	4.18797E+13	3.4080684	6.70217E+12	0.0182428		3.4080684
5886.62		0.1156992	5/7/19 17:57	0.0204922	0.6136731		3.4128341	6.70217E+12	0.0280718		3.4128341
5896.23			5/7/19 18:02	0.0194272			3.3034392	6.70217E+12	0.4423178	1	13.2459437
5898.4		0.1120318	5/7/19 18:08	0.0194272	0 5817799	A 222775±12	2 201655	C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LLCT		01111
0000	-						5.504055	0./021/E+12	0.19554	3.0337712	5.855//12

led:	01/02/202	24

64. Alleria LAMP Control Control Control Control Control <t< th=""><th>A</th><th>\Box</th><th>П</th><th>C</th><th></th><th></th><th></th><th></th><th>т</th><th>_</th><th>ſ</th><th>¥</th><th></th></t<>	A	\Box	П	C					т	_	ſ	¥	
576507 0.0104072 0.014072 0.014072 0.014072 0.0140872 0.01	\sim			/en_mining_cost	datetime	day_ahe	day_ahead_L	est_network_hashrate	mining_rev	Ē	real_ti	real_time_LMP_rev	realized_rev
\$1,000.00.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0		36.66	575037	0.1118805	_	0			3.3001905			0.3738512	3.3001905
975040 0.1082068 (1771) B.153 0.004477 0.450779 4.450714-12 1.3157640 0.1082068 (1771) B.153 0.004477 0.450779 4.450714-12 1.00714-12 0.10778-12		1.99	575039	0.1087922	_	0.0194272			3.2090942	6.70217E+12		0.1898738	3.2090942
970041 0.10007081 (2017) 0.10007091 0.10007091 0.0200707		18.01	575040	0.1082466	_	0.0194272			3.1930006	6.70217E+12		0.208884	3.1930006
\$55441 D. 10.0626/1 (2) 17.19 C. 10.0626/1 (2) 17.19 <th< td=""><td></td><td>9.19</td><td>575041</td><td>0.1069708</td><td></td><td>0.0194272</td><td></td><td></td><td>3.1553672</td><td>6.70217E+12</td><td></td><td>0.3529724</td><td>3.1553672</td></th<>		9.19	575041	0.1069708		0.0194272			3.1553672	6.70217E+12		0.3529724	3.1553672
\$55041 0.1088/18/17/18/18 0.01887/7 0.1877/9 0.1871/9 1.1887/18/17/11 0.01887/7 0.1877/9 0.1871/11 0.01887/9 0.1871/9 0.		58.01	575041	0.1062241	-	0.0194272			3.1333408	6.70217E+12	0	0.0246012	3.1333408
\$55,502 D. Mondeld S. 1771-19.884 O. 158,779 4.5,106-12 5.00,2777-12 0. 0.017334 0. 0.017344 </td <td>4 * 2 1</td> <td>32.84</td> <td>575041</td> <td>0.1057677</td> <td>$\overline{}$</td> <td>0.0194272</td> <td></td> <td></td> <td>3.1198778</td> <td>6.70217E+12</td> <td></td> <td>0.2376567</td> <td>3.1198778</td>	4 * 2 1	32.84	575041	0.1057677	$\overline{}$	0.0194272			3.1198778	6.70217E+12		0.2376567	3.1198778
579042 OLORSIAS STATUS BESS OLORSIAND ALSARPTON	1 N	:5.57	575042	0.1062064	-	0.0194272			3.1328187	6.70217E+12		0.3928793	3.1328187
575042 0.108281 5/1719 36-8 0.0205655 0.0205655 0.0205655 0.020565	111	30.23	575042	0.1044682	$\overline{}$	0.0194272			3.0815477			0.4409168	3.0815477
579040 0.1080588 57/19 b bbs 0.0200585 0.0209777 4.508444+18 0.0200774-2.1 0.0200585 0.0209777 4.508444+18 0.0200585 0.0200585 0.0200774-1 0.0200585 0.0200774-1 0.0200585 0.0200774-1 0.0200585 0.0200774-1 0.0200585 0.0200774-1 0.0200585 0.0200774-1 0.0200	۳	55.61	575042	0.1051132	_	0.0194272			3.100574			0.4746846	3.100574
575044 0.0104365 575045 0.020377 4.527764-13 0.010426 0.020377 0.020377 4.527764-13 0.010426 0.020374 0.020377	2	18.35	575042	0.103887	-	0.0208363		4.51499E+13	3.0644036	6.70217E+12		0.4310793	3.0644036
575044 0.10104169 7/179 1913 0.0203053 0.6239777 4.52172478 3.022406 0.02017412 0.0201489 0.0239077 575044 0.1014169 7/179 1912 0.0200843 0.6239777 4.52172478 3.022406 0.0200518 0.0500848 575044 0.1014169 7/179 1923 0.0200848 0.0239777 4.52172478 3.022406 0.0201721 0.0200648 0.0500848 575044 0.1014169 7/179 1923 0.0200848 0.0239777 4.5277478 3.022406 0.0200718 0.0500848 575044 0.10104169 7/179 1923 0.0200848 0.0239777 4.5237674 3.001169 0.0221741 0.0223600 575049 0.101041071 5/179 1924 0.0200848 0.0239777 4.5237674 0.01107712 0.01107712 0.01107712 0.0200848 0.0239777 4.5237674 0.01107712 0.01107712 0.01107712 0.01107712 0.01107712 0.01107712 0.01107712 0.01107712 0.01107712 0.01107772 0.01107772 0.01107772 0.01107772 0.01107772 0.011077772	1,1	:8.93	575043	0.104596		0.0208363		4.50844E+13	3.0853184		0.0085453	0.2559033	3.0853184
575044 0.104568 0.0202886 0.02028977 4.527727-13 3.07226-13 0.0014618 0.0202896 575044 0.104568 5.77129-12 0.0202886 0.02028977 4.527727-13 3.0022897 0.02028977 4.527727-13 3.0022897 0.0202897 0.0	124	:6.34	575044	0.1042417	_	0.0208363		4.52172E+13	3.0748672	6.70217E+12		0.392499	3.0748672
575444 0.1045006 (1779) 19.23 0.0208369 0.02399777 4525777+13 0.020206 0.02038977 0.02011599 0.020216 0.020206	124	1.68	575044	0.1041569		0.0208363		4.52172E+13	3.072365	6.70217E+12	-	0.2230518	3.072365
57944 0.109712 (174) 9128 0.0208369 0.0239777 455277F±13 3.012794 0.0109772 (174) 9128 0.0208369 0.0239777 455277F±13 0.012742 0.020242 0.0208364 0.0208364 0.0208364 0.020836	- 2	68.0 ¹	575044	0.1045066		0.0208363		4.52172E+13	3.0826801	6.70217E+12		0.6608301	3.0826801
575049 0.0101783 57/19.19 33 0.0203858 0.0239777 4.532776-11 3.0703946 0.0101781 57/19.19 0.0203858 0.0239777 4.53276-11 3.0703946 0.0101751 0.010375 </td <td>ı 'n',</td> <td>19.97</td> <td>575047</td> <td>0.1037772</td> <td>_</td> <td>0.0208363</td> <td></td> <td>4.55277E+13</td> <td>3.0611659</td> <td>6.70217E+12</td> <td>0.0206216</td> <td>0.6175482</td> <td>3.0611659</td>	ı 'n',	19.97	575047	0.1037772	_	0.0208363		4.55277E+13	3.0611659	6.70217E+12	0.0206216	0.6175482	3.0611659
975048 0.0048811 5/179 1938 0.0238977 4.53866-13 3.0880341 5/02178-12 0.0031850 0.023804 975048 0.104419 5/179 1948 0.020883 0.023977 4.53866-13 3.089034 6/02178-12 0.013650 0.05386 975048 0.104419 5/179 1948 0.020839 0.023977 4.53866-13 3.137595 0.017178-12 0.013685 0.523800 975049 0.104643 5/179 1948 0.020839 0.0238977 4.473766+13 3.13759 0.017178-12 0.013082 0.523800 975049 0.104643 5/179 1958 0.024677 0.473764+13 3.137595 0.02178-14 0.013082 0.023869 97505 0.004644 5/179 20.03 0.024677 0.4473764-13 3.147328 5 0.001207 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0.4473764-12 0.012072 0.041029 0	۳.	12.15	575047	0.1041783	_	0.0208363		4.55277E+13	3.0729946	6.70217E+12		0.6810231	3.0729946
575048 0.0108319 0.0208363 0.0239777 4.58864-13 3.0090116 0.0109319 0.0208363 575048 0.1008410 \$7719 19-87 0.0208363 0.0223977 4.53864-13 3.009116 0.0109393 0.0109393 575048 0.1008410 \$77179 19-20-28 0.0208363 0.0239777 4.53864-13 3.127596 0.010717+12 0.0107032 0.0208443 575049 0.1006344 \$7717 9 0.023 0.0204057 0.6400294 4.473864-13 3.123058 0.02017+12 0.0105082 0.0204043 575040 0.1006344 \$7717 9 0.023 0.0214057 0.0414057 0.6410294 4.473864-13 3.124288 0.02017+1-1 0.0109393 0.0214057 0.0414057 0.6410294 4.462864-13 3.124288 0.02017+1-1 0.0109393 0.0204057 0.041057 0.6410294 4.462864-13 3.124288 0.02017+1-1 0.0109393 0.0204057 0.0410294 4.462864-13 3.124288 0.02017+1-1 0.0109393 0.0204057 0.0410294 4.462864-13 3.11424225 0.02017+1-	11	72.32	575048	0.1046881	-	0		4.5386E+13	3.0880343	6.70217E+12		0.6398674	3.0880343
575048 0.1080412 7/17.9 19-88 0.023977 4.33664-13 3.1092/506 0.012/612-12 0.013825 0.023064 575048 0.1060244 5/7/15 19-58 0.020856 0.0223977 4.43266-13 3.132795 0.01717-12 0.013825 0.520404 575049 0.1060204 5/7/15 19-58 0.020856 0.0228977 4.43266-13 3.132876 0.01717-12 0.013825 0.520404 575049 0.1060204 5/7/15 20-23 0.024067 0.6410294 4.47364-13 3.143287 0.01267-12 0.013825 0.024067 575040 0.1060204 5/7/15 20-23 0.024067 0.6410294 4.47364-13 3.143287 0.01267-12 0.013827 575051 0.1060204 5/7/15 20-23 0.024405 0.6410294 4.566154-13 3.143287 0.012871 0.024405 575052 0.1065219 5/7/15 20-23 0.024405 0.6410294 4.566154-13 3.143287 0.012872 0.024405 575054 0.1065219 5/7/15 20-22 0.024405 0.6410294<	12	7.52	575048	0.1044197	-	0.0208363		4.5386E+13	3.0801167	6.70217E+12	_	0.5765093	3.0801167
575QH2 0.1005QH2 \$77QH2 0.1005QH2<	-~	30.76	575048	0.1048412	_	0		4.5386E+13	3.0925494		0.0184615	0.5528604	3.0925494
575004 0.1000438 77,19 20:08 0.0200835 0.0201294 4.47376£+13 3.18206 6.702775+12 0.0003812 0.0200404 0.0200820 0.0	11/	72.27	575049	0.1062044	-	0.0208363		4.47376E+13	3.1327595			0.5108692	3.1327595
575040 0.1005244 \$7,102 0.033 0.0214057 0.6410294 4.47736±13 3.4431888 6.702175±12 0.0202229 0.0202229 575040 0.1005246 \$77719 0.013 0.0214057 0.6410294 4.47735±13 3.4421888 6.702175±12 0.0180208 0.5663464 575051 0.1005256 \$77719 0.013 0.0214057 0.6410294 4.47535±13 3.1421826 6.702175±12 0.0188708 0.5663464 575052 0.1005212 \$7719 0.013 0.0214057 0.6410294 4.50515±13 3.143186 0.018579 0.018579 0.01852 0.018579 0.018579 0.018579 0.018579 0.01852 0.018579 0.018579 0.018579 0.018579 0.0214057 0.6410294 4.450515±13 3.143189 0.018579 0.	12	3.53	575049	0.1060435		0		4.47376E+13	3.128016			0.5804413	3.128016
575050 0.0105226 \$7/199 2010 0.01400279 0.4407284-13 3.1421888 6.70217F+12 0.0105018 0.0563488 575021 0.108526 \$7/19 2013 0.0214097 0.6410294 4.50615F+13 3.1421888 6.70217F+12 0.0108918 0.56616888 575022 0.108526 \$7/19 2013 0.0214097 0.6410294 4.50615F+13 3.112488 0.0188789 0.5564688 575024 0.10856 \$7/19 2013 0.0214097 0.6410294 4.50615F+13 3.112488 0.0188789 0.5564072 575024 0.1071284 \$7/19 2013 0.0214097 0.6410294 4.56015F+13 3.112409 0.56017F+12 0.0188789 0.5564072 575026 0.1071284 \$7/19 2013 0.0214097 0.6410294 4.56815F+13 3.1141049 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.0188789 0.018878	ı 1.	74.99	575049	0.1062544		0.0214057			3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
575051 0.1008264 5/7/19 20.13 0.0214057 0.6410294 4.47578-143 3.122.882 6.70217F+12 0.0189119 0.564668 575052 0.100856 5/7/19 20.13 0.0214057 0.6410294 4.506156+13 3.112.886 6.70217F+12 0.018878 0.5653941 575052 0.1055323 5/7/19 20.28 0.0214057 0.6410294 4.566156+13 3.112.886 6.70217F+12 0.018878 0.5653941 575054 0.1059047 5/7/19 20.28 0.0214057 0.6410294 4.566157+13 3.112409 6.70217F+12 0.018878 0.5653941 575054 0.1071294 0.0214057 0.6410294 4.45665143 3.112409 6.0210294 0.656127 0.018878 0.5610294 0.6410294 4.5661274 0.018878 0.5610294 0.6410294 0.6610294 <td>. ~</td> <td>15.64</td> <td>575050</td> <td>0.1067275</td> <td>-</td> <td>0.0214057</td> <td>0.6410294</td> <td></td> <td>3.1481898</td> <td>6.70217E+12</td> <td>0.0200782</td> <td>0.6012752</td> <td>3.1481898</td>	. ~	15.64	575050	0.1067275	-	0.0214057	0.6410294		3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
575022 0.1055321 5/1/19 20.18 0.0214055 0.6410294 4.50615e+13 3.1124856 6.70217e+12 0.0188789 0.50563341 575022 0.1055321 5/1/19 20.28 0.0214057 0.6410294 4.50615e+13 3.112066 6.70217e+12 0.0188789 0.5653341 575053 0.1055191 5/1/19 20.28 0.0214057 0.6410294 4.56615e+13 3.112066 6.70217e+12 0.0188278 0.5563341 575054 0.1072491 5/1/19 20.28 0.0214057 0.6410294 4.45058e+13 3.112066 6.70217e+12 0.0188279 0.5563341 575056 0.1072491 5/1/19 20.28 0.0214057 0.6410294 4.45058e+13 3.180402 0.0155894 0.4510249 0.6410294 4.45058e+13 3.180207 0.0116829 0.0214057 0.6410294 4.45058e+13 3.180207 0.0106839 0.0214057 0.6410294 4.45048e+13 0.01887 0.051069 0.0214057 0.6410294 4.44404e+12 3.1800007 0.0116829 0.0214057 0.0410294 4.444412e+13 3.1400007 0.0116829 0.0214057 0.0410294 <td><u>ر</u> ب</td> <td>14.65</td> <td>575051</td> <td>0.1065264</td> <td>-</td> <td>0</td> <td>0.6410294</td> <td></td> <td>3.1422582</td> <td>6.70217E+12</td> <td>-</td> <td>0.5663484</td> <td>3.1422582</td>	<u>ر</u> ب	14.65	575051	0.1065264	-	0	0.6410294		3.1422582	6.70217E+12	-	0.5663484	3.1422582
575052 0.1055332 5/7/19 2023 0.024057 0.6410294 4.566155+13 3.114062 0.018878 0.5640972 575052 0.1065312 5/7/19 2023 0.0214057 0.6410294 4.45366+13 3.1141040 0.0186879 0.5650374 575053 0.1069012 5/7/19 2033 0.0214057 0.6410294 4.45386+13 3.154180 0.0015838 0.501374 575054 0.106316 5/7/19 2033 0.0214057 0.6410294 4.45386+13 3.154180 0.0015838 0.03130 575056 0.106316 5/7/19 2033 0.0214057 0.6410294 4.45386+13 3.154180 0.0015838 0.0177171 575056 0.106316 5/7/19 2048 0.0214057 0.6410294 4.44378+13 3.161061 0.017574 0.0105838 0.017712 575056 0.106316 5/7/19 2048 0.0214057 0.6410294 4.443478+13 3.143807 0.010715 0.010713 0.010713 0.010714 0.010714 0.010714 0.010717 0.010717 0.010717 0.010717	٠,١	4.99	575052	0.105856		0			3.1224836	6.70217E+12		0.5054668	3.1224836
575052 0.1055719 7.105572 0.01365719 7.105572 0.01365719 0.024005 0.04100294 4.506154-13 3.1140409 0.702175+12 0.0136579 0.05401374 575054 0.1076246 1.017244 4.456535+13 3.1560161 0.0015547 0.016534 0.025040 0.017244 575054 0.1072446 1.017244 4.456535+13 3.1560161 0.017544 0.017344 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 0.01724 <td< td=""><td></td><td>7.32</td><td>575052</td><td>0.1055332</td><td></td><td>0.0214057</td><td></td><td></td><td>3.1129625</td><td>6.70217E+12</td><td></td><td>0.5653541</td><td>3.1129625</td></td<>		7.32	575052	0.1055332		0.0214057			3.1129625	6.70217E+12		0.5653541	3.1129625
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575063 0.108298 5/7/19 21.43 0.0187353 0.5610598 4.44275E+13 3.1945427 6.70217E+12 0.0138085 0.4135185 575064 0.107581 5/7/19 21.48 0.0187353 0.5610598 4.44275E+13 3.173683 6.70217E+12 0.013546 0.03702786 575064 0.107581 5/7/19 21.58 0.0187353 0.5610598 4.44275E+13 3.168318 6.70217E+12 0.013542 0.4302845 575064 0.1073419 5/7/19 21.58 0.0187353 0.5610598 4.44275E+13 3.168318 6.70217E+12 0.0135125 0.4303845 575064 0.107536 5/7/19 22.03 0.0092857 0.2780758 4.44269E+13 3.103402 6.70217E+12 0.013942 0.4589417 57506 0.1054664 5/7/19 22.03 0.0092857 0.2780758 4.51062E+13 3.103402 6.70217E+12 0.013942 0.4589417 57506 0.1054664 5/7/19 22.18 0.0092857 0.2780758 4.51062E+13 3.117557 6.70217E+12 0.0131049 0.451062E+13 0.0	ب	14.49	575063	0.1082426		0			3.1928815	6.70217E+12		0.4198373	3.1928815
575064 0.107581 5/7/19 21:48 0.0187353 0.5610598 4.44275E+13 3.1733683 6.70217E+12 0.0135325 0.3702786 575064 0.107418 5/7/19 21:53 0.0187353 0.0187353 0.5610598 4.44275E+13 3.168569 6.70217E+12 0.0135325 0.0430385 575064 0.1073419 5/7/19 21:58 0.0187353 0.02857 0.444275E+13 3.168369 6.70217E+12 0.0143717 0.4303845 575065 0.1075210 5/7/19 22:03 0.0092857 0.2780758 4.44269E+13 3.158141 6.70217E+12 0.0153253 0.456521 575067 0.1054664 5/7/19 22:03 0.0092857 0.2780758 4.51062E+13 3.105906 6.70217E+12 0.0139439 0.4155733 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.115577 6.70217E+12 0.0139439 0.4155733 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.115577 6.70217E+12 0.0133639 0.3		17.51	575063	0.1082989	-	0.0187353			3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
575064 0.1074184 5/7/19 21:53 0.0187353 0.5610598 4.44275E+13 3.1685699 6.70217E+12 0.0135325 0.04052533 575064 0.1073419 5/7/19 21:58 0.0187353 0.5610598 4.44275E+13 3.1663128 6.70217E+12 0.0143717 0.04303845 575065 0.1075210 5/7/19 22:03 0.0092857 0.2780758 4.44269E+13 3.157814 6.70217E+12 0.0159167 0.4766521 575067 0.1052104 5/7/19 22:03 0.0092857 0.2780758 4.51062E+13 3.105940 6.70217E+12 0.0139439 0.4155733 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0139439 0.4175733 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.115577 6.70217E+12 0.0139439 0.3352588 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.115757 6.70217E+12 0.0133630 0.3670653 <td>_</td> <td>99:90</td> <td>575064</td> <td>0.107581</td> <td></td> <td></td> <td></td> <td></td> <td>3.1733683</td> <td>6.70217E+12</td> <td></td> <td>0.3702786</td> <td>3.1733683</td>	_	99:90	575064	0.107581					3.1733683	6.70217E+12		0.3702786	3.1733683
575064 0.1073419 5/7/19 21:58 0.0187353 0.5610598 4.44275E+13 3.1663128 6.70217E+12 0.0143717 0.4303845 0.4303845 575065 0.1075204 5/7/19 22:03 0.0092857 0.2780758 4.44269E+13 3.1578114 6.70217E+12 0.0159167 0.4766521 575067 0.1052104 5/7/19 22:08 0.0092857 0.2780758 4.51062E+13 3.109906 6.70217E+12 0.013353 0.4155733 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0139439 0.4175733 575067 0.105689 5/7/19 22:18 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0131096 0.3352588 575067 0.1056803 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1157577 6.70217E+12 0.0136306 0.3670653 575067 0.1055831 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1129015 0.0136306 0.0408191		8Z.Zt	575064	0.1074184		0.0187353			3.1685699	6.70217E+12		0.4052533	3.1685699
575065 0.1070536 5/7/19 22:03 0.0092857 0.2780758 4.44269E+13 3.1578114 6.70217E+12 0.0159167 0.4766521 575066 0.1052104 5/7/19 22:08 0.0092857 0.2780758 4.51693E+13 3.1034402 6.70217E+12 0.0133253 0.4589417 575067 0.105689 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.1105906 6.70217E+12 0.0139439 0.4175733 575067 0.105689 5/7/19 22:18 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0131096 0.33525888 575067 0.1056803 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.115757 6.70217E+12 0.0136306 0.3670653 575067 0.1055831 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1129015 6.70217E+12 0.0136306 0.3670653		13.65	575064	0.1073419		0.0187353			3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
575066 0.1052104 5/7/19 22:08 0.0092857 0.2780758 4.51693E+13 3.1034402 6.70217E+12 0.0153253 0.4589417 575067 0.1054664 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.1105906 6.70217E+12 0.0139439 0.4175733 575067 0.105689 5/7/19 22:18 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0131096 0.3352888 575067 0.1056603 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.115716 0.012573 0.3670653 575067 0.105531 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.112916 0.0126363 0.408191		78.02	575065	0.1070536					3.1578114			0.4766521	3.1578114
575067 0.1054646 5/7/19 22:13 0.0092857 0.2780758 4.51062E+13 3.1109906 6.70217E+12 0.0139439 0.4155733 575067 0.105689 5/7/19 22:18 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0131096 0.3955888 575067 0.105689 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1167126 6.70217E+12 0.0122573 0.3670653 575067 0.1055311 5/7/19 22:28 0.0092857 0.2780758 4.51062E+13 3.1129015 6.70217E+12 0.0136306 0.408191		73.43	575066	0.1052104		0.0092857			3.1034402	6.70217E+12	0.0153253	0.4589417	3.1034402
575067 0.105689 5/7/19 22:18 0.0092857 0.2780758 4.51062E+13 3.1175577 6.70217E+12 0.0131096 0.3925888 575067 0.105680 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1167126 6.70217E+12 0.0122573 0.3670653 575067 0.1055311 5/7/19 22:28 0.0092857 0.2780758 4.51062E+13 3.1129015 6.70217E+12 0.0136306 0.408191		79.39	275067	0.1054664	_	0			3.1109906	6.70217E+12		0.4175733	3.1109906
575067 0.1056603 5/7/19 22:23 0.0092857 0.2780758 4.51062E+13 3.1167126 6.70217E+12 0.0122573 0.3670653 575067 0.1055311 5/7/19 22:28 0.0092857 0.2780758 4.51062E+13 3.1129015 6.70217E+12 0.0136306 0.408191		1.59	275067	0.105689		0			3.1175577			0.3925888	3.1175577
. 575067 0.1055311 5/7/19 22:28 0.0092857 0.2780758 4.51062E+13 3.1129015 6.70217E+12 0.0136306 0.408191 0.048191		30.02	575067	0.1056603		0			3.1167126			0.3670653	3.1167126
	~ .	32.94	275067	0.1055311		0.0092857			3.1129015			0.408191	3.1129015

	4	В	U	Ο	В	4	ŋ	I	_	ſ	~	_
1	BTC_price	block_height b	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev r	realized_rev
410	5775.43	275067	0.1053941	5/7/19 22:33	0.0092857		3 4.51062E+13	3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	3 4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	275068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957961	3.1526954
413	5776.9	575070	0.1064823	5/7/19 22:48		0.2780758	4.46566E+13	3.1409571	6.70217E+12	0.0151927	0.4549707	3.1409571
414	5782.35	575070	0.1065827	5/7/19 22:53		0.2780758	4.4656E+13	3.1439203	6.70217E+12	0.0127496	0.381808	3.1439203
415	5778.56	575070	0.1065129	5/7/19 22:58	0.0092857	0.2780758	4.4656E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	1 0.321747	7 4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 0:08	0.010744	1 0.321747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 0:13		1 0.321747	7 4.51263E+13	3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419	5791.66	575078	0.1056434	5/8/19 0:18	0.010744	1 0.321747	7 4.51263E+13	3.1162113	6.70217E+12	0.0124538	0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 0:23	0.010744	1 0.321747	7 4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 0:28	0.010744	1 0.321747	7 4.47794E+13	3.1426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 0:33	0.010744	1 0.321747	7 4.65775E+13	3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	1 0.321747	7 4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82		0.1015622	┡			7 4.70463E+13		6.70217E+12			2.9958274
425	5802.49		0.0989662	_	0.010			L	6.70217E+12			2.9192535
426	5795.31	575086	0.0988438						6.70217E+12		0.4418571	2.9156412
427	5799.55	575087	0.0990391	5/8/19 0:58		1 0.321747	7 4.8201E+13	3 2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	5/8/19 1:03	0.0116366	5 0.3484774	4.8201E+13	3 2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	5 0.3484774	4.8201E+13	3 2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	5 0.3484774	4.86011E+13	3 2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.19	575090	0.0973429	5/8/19 1:18	0.0116366	5 0.3484774	4.91901E+13	3 2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23		5 0.3484774	4.91901E+13	3 2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	5 0.3484774	4.91901E+13	3 2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434	5837.72	575090	0.0976864	5/8/19 1:33	0.0116366	5 0.3484774	4.91901E+13	3 2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	L.		5 0.3484774	4.91901E+13		6.70217E+12	0.0007008	0.0209866	2.875504
436	5834.9	575090	0.0976392	5/8/19 1:43	0.0116366	5 0.3484774	4.91901E+13	2.8801093	6.70217E+12	0.002842	0.0851084	2.8801093
437	5839.94		0.0977235						6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68		0.0976355	5/8/19 1:54		5 0.3484774			_	0.0037273		2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	5 0.3484774	4.91901E+13	3 2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.097617	5/8/19 2:04	0.0119665	5 0.3583568			6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02		0.0976747	_		5 0.3583568	4.91901E+13		6.70217E+12		0.3621361	2.8811557
442	5834.82		0.1021121	H							0.4153423	3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19		5 0.3583568	4.70347E+13		6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091	0.1019802	5/8/19 2:24	0.0119665	5 0.3583568	4.70347E+13		6.70217E+12	0.0146496	0.4387067	3.0081561
445	5814.3	575091	0.101753	-	0.0119665						0.4017944	3.0014556
446	5822.06		0.1015212				4.72051E+13		6.70217E+12	0.013794	0.4130843	2.9946169
447	5827.69		0.1016193	-	0.0119							2.9975127
448	5825.01		0.1011451	_					_		0.5192632	2.9835236
449	5825.01	575094	0.1011451	_		5 0.3583568	3 4.74046E+13	_	6.70217E+12	0.0160878	0.481776	2.9835236
450	5827.65		0.1011909	_	0.0119665			7	_		0.4055467	2.9848758
451	5828.98		0.101214	_	0.0119				_	0	0.3587221	2.985557
452	5816.75		0.1023933	_	0.0120				_		0.2378065	3.020342
453	5816.32	575095	0.1023857		0.0120				6.70217E+12		0.3542092	3.0201187
454	5822.73		0.1024985		0.0120						0.4363289	3.0234471
455	5828.4		0.1025983	_	0.0120			_	_		0.4571508	3.0263913
456	5829.18		0.1038705	_	0.0120						0.5065808	3.0639178
457	5837.98		0.1040273		0.0120						0	3.0685432
458	5838.98		0.1040229	_								3.0684122
459	5828.52		0.1038366		0.0120924							3.0629154
460	5822.59	575099	0.1046272	5/8/19 3:44		4 0.3621271	1 4.58079E+13	3.0862378	6.70217E+12	0.0168116	0.5034514	3.0862378

t	A	В	O	J	ц	ı.	g	I	-	ſ	¥	_
$\overline{}$	\neg	block_r	breakeven_mining_cost		day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	Ε	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
461	5803.44	575099		5/8/19 3:49		0.3621271	4.58079E+13		6.70217E+12	0.0140409	0	3.0760874
462	5796.56	575099	0.1041595	5/8/19 3:54	0.0120924	0.3621271	4.58079E+13	3.0724407	6.70217E+12	0.0144936	0.434035	3.0724407
463	5807.05	575101	0.1050426	5/8/19 3:59	0.0120924	0.3621271	4.55049E+13	3.0984912	6.70217E+12	0.0119057	0.356536	3.0984912
464	5809.78	575101	0.105092	5/8/19 4:04	0.0137229	0.4109551	4.55049E+13	3.0999478	6.70217E+12	0.0125622		3.0999478
465	5812.68	575101	0.1051445	5/8/19 4:09	0.0137229	0.4109551	4.55049E+13	3.1014952	6.70217E+12	0.0142995	0.4282224	3.1014952
466	5815.61	575102	0.1048815	5/8/19 4:14	0.0137229	0.4109551	4.5642E+13	3.0937385	6.70217E+12	0.0193516	0.5795159	3.0937385
467	5808.55	575103	0.1046033	5/8/19 4:19	0.0137229	0.4109551	4.57078E+13	3.0855325	6.70217E+12	0.0200764	0.6012213	3.0855325
468	5820.01	575104	0.1050843	5/8/19 4:24			4.55884E+13		6.70217E+12	0.0189938	0.568801	3.09972
469	5816.06	575105	0.1052763	5/8/19 4:29		0.4109551	4.54744E+13	3.1053836	6.70217E+12	0.0230152	0.6892285	3.1053836
470	5808.82	575106	0.1053792	5/8/19 4:34	0.0137229	0.4109551	4.53734E+13	3.1084182	6.70217E+12	0.0197229	0.5906351	3.1084182
471	5815.31	575106	0.1054969	5/8/19 4:39	0.0137229	0.4109551	4.53734E+13	3.1118911	6.70217E+12	0.0184185	0.5515727	3.1118911
472	5818.61	575108	3 0.1056718	5/8/19 4:44	0.0137229	0.4109551	4.5324E+13	3.1170516	6.70217E+12	0.0141625	0.4241197	3.1170516
473	5810.51	575108	3 0.1055247	5/8/19 4:49	0.0137229	0.4109551	4.5324E+13	3.1127124	6.70217E+12	0.0159072	0.4763676	3.1127124
474	5815.11	575108	3 0.1056083	5/8/19 4:54	0.0137229	0.4109551	4.5324E+13	3.1151766	6.70217E+12	0.0160139	0.4795629	3.1151766
475	5808.22	575109	0.1054956	5/8/19 4:59	0.0137229	0.4109551	4.53187E+13	3.1118531	6.70217E+12	0.0129169	0.3868181	3.1118531
476	5821.06	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13	3.1187323	6.70217E+12	0.0087613	0.2623717	3.1187323
477	5830.24	575109	0.1058956	5/8/19 5:09	0.0172785	0.5174335	4.53187E+13	3.1236507	6.70217E+12	0.0125147	0.3747735	3.1236507
478	5816.12			5/8/19 5:14	0.0172785	0.5174335		3.1375074	6.70217E+12	0.0158514		3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335		3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	3 0.1056372	5/8/19 5:34	0.0172785	0.5174335			6.70217E+12	0.0168377	0.504233	3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	t 0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114		5/8/19 5:49	0.0172785	0.5174335		3	6.70217E+12	0.016296		3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335		3.1123637	6.70217E+12	0.0157437		3.1123637
488	5829.09	575117		5/8/19 6:04	0.0211899	0.6345669			6.70217E+12	0.015334		3.1113164
489	5826.85			5/8/19 6:09	0.0211899	0.6345669		3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669		3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492	5843.03	575119		5/8/19 6:24		0.6345669		3.110009	6.70217E+12	0.0169939		3.110009
493	5842.51	575119		5/8/19 6:29	0.0211899	0.6345669		3.1097323	6.70217E+12	0.0176305		3.1097323
494	5859.77			5/8/19 6:34	0.0211899	0.6345669		3.1139353	6.70217E+12	0.0182108		3.1139353
495	5849.16	575120		5/8/19 6:39	0.0211899	0.6345669		3.1082971	6.70217E+12	0.0222873		3.1082971
496	5859.91			5/8/19 6:44	0.0211899	0.6345669		3.1140097	6.70217E+12	0.0240313		3.1140097
497	5874.94			5/8/19 6:49	0.0211899	0.6345669			6.70217E+12	0.0247785		3.1219968
498	5849.77			5/8/19 6:54	0.0211899	0.6345669			6.70217E+12	0.035146	1	3.1215733
499	5847.52			5/8/19 6:59	0.0211899	0.6345669		3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
200	5858.74			5/8/19 7:04		0.7365952		3.1322899	6.70217E+12	0.0225584		3.1322899
501	5868.24			5/8/19 7:09		0.7365952		3.0864695	6.70217E+12	0.0227738		3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208		3.0822829
503	5864.03	575124	1 0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125		5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35			5/8/19 7:29	0.0245969	0.7365952		3.0934774	6.70217E+12	0.0225888		3.0934774
909	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
202	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125		5/8/19 7:44	0.0245969	0.7365952			6.70217E+12	0.0198359		3.0935039
509	5848.68			5/8/19 7:49		0.7365952			6.70217E+12	0.0296779		3.0219576
510	5843.55			5/8/19 7:54	0.0245969	0.7365952			6.70217E+12	0.0208223		3.0227572
511	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892405	3.0270092

age: 30	Filed: 01/02/2024
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	rev realized rev	95		0.5806209 3.0185855				- 1	_		0.635642 2.9767393	_							1.2864369 3.0082132	2											0.7810989 2.7700267	,		2	53187 2.797307	2			30827 2.8027.303 30827 2.8056159	. 00		00321 2.8197442						C 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
:	real time LMP rev	39																																	1.156318				73 0.6660827			24 0.6400321						
	real time LMP			-							.2 0.0212258	.2 0.0203371		- 1	.2 0.0236817			.2 0.0275293	-			-		0					O		7 0.026083				2 0.0386126				0.0293671			2 0.0213724		0.1			0.0224703	
	ev network diff	00		855 6.70217E+12	Ш		_				393 6.70217E+12	876 6.70217E+12	456 6.70217E+12		_		883 6.70217E+12	689 6.70217E+12	132 6.70217E+12					_	_					4	26/ 6./021/E+12 11E 6./0217E+13	\perp			307 6.70217E+12				503 6.70217E+12			442 6.70217E+12	662 6.70217E+12	Ш			387 6./021/E+12	
:	e mining rev	-13		:+13 3.0185855	Ш		4	_			:+13 2.9767393				_			:+13 3.0092689	:+13 3.0082132	7			4	_							(+13 2.7/00267 (+13 2.7/00267	2		2	:+13 2.797307				+13 2.8027503	1		:+13 2.8197442				\perp	:+13 2./81038/	
	est network hashrate	_		4.70405E+13							4.77691E+13		4.77691E+13					4.71458E+13	4.71458E+13												5.16596E+13				5.12313E+13				5.09916E+13			5.07027E+13					5.12/16E+13	
	day ahead LMP rev		0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7249938	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.7335107	0.8191761	0.8191761	0.8191761	0.8191761	0.8191761	0.8191761	0.8191/61	0.8191761	0.8191761	0.8191761	0.8191761	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7684375	0.7897235	
	day ahead LMP	0.0242095)				4 0.0242095		J	0.0242095	J)	J	J	J	J)	0.0244939	J	_)				Ŭ					0.02/3545				5 0.0273545				0.0256602)			0	0.0263/1	
	datetime	_	_	7 5/8/19 8:14	Ш	_	_	_			1 5/8/19 8:50	7 5/8/19 8:55			_			9 5/8/19 9:25	1 5/8/199:30	6 5/8/199:35			_				_		\rightarrow	-	3 5/8/19 10:30	_		-	1 5/8/19 10:55			_	8 5/8/19 11:15		_	_	-	ш	\rightarrow	_	6 5/8/19 12:01	
(ر breakeven mining cost	0.1025793		0.1023337		0					0.1009151					0.1018101	0.1019473	0.1020179	0.1019821			0									0.0939073				0.0948321	0		0	0.095016			0.0955928	0.0955561			0.0945307	0.0942806	
	block height	575127		575130				575134			575136	575136	575136				575137	575137	575137					575142							5/5144				575145				575147		575149	575149	575149				5/5151	
	A 1 BTC price	512 5849.49		514 5848.2							521 5856.45				ш,		527 5839.16	528 5843.2	529 5841.15	530 5849.05					.,				۵,		541 5893.62				546 5902.32	Δ,			551 5892.15			554 5888.27					559 5872.61	

0	,									
block_height	ght breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff r	real_time_LMP	real_time_LMP_rev	realized_rev
575	575154 0.0943442	_	0.026371	0.7897235	5.12032E+13	2.7829139	6.70217E+12	0.0227271	0.6806009	2.7829139
575	575154 0.0944876	76 5/8/19 12:26		0.7897235	5.12032E+13	2.7871437	6.70217E+12	0.0262613	0.7864384	2.7871437
575	575156 0.0934827	_		0.7897235	5.18317E+13	2.7575042	6.70217E+12	0.0246938	0.739497	2.7575042
575	575156 0.0934308	08 5/8/19 12:36		0.7897235	5.18317E+13	2.7559724	6.70217E+12	0.0239477	0.7171538	2.7559724
575	575156 0.0933919	19 5/8/19 12:41	0.026371	0.7897235	5.18317E+13	2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
575	575157 0.0931778	78 5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	2.7485095
575	575157 0.0931925			0.7897235	5.20042E+13	2.7489437		0.0210953	0.6317339	2.7489437
575	575159 0.0936745			0		2.7631598		0.0221968	0.6647202	2.7631598
575	575159 0.0935804	104 5/8/19 13:01		0.670973	5.17223E+13	2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
575	575159 0.093653	53 5/8/19 13:06		0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
575	575159 0.0936901	101 5/8/19 13:11		0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
575	575159 0.0936218	18 5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	575160 0.095298	98 5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
575	575161 0.0954767	67 5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
575	575161 0.0953473	173 5/8/19 13:31		0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
575	575163 0.0928787	87 5/8/19 13:36		0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
575	575163 0.0930984	184 5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
5884.42 575	575163 0.0931942	142 5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
5882.28 575	575163 0.0931603	5/8/19 13:51		0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
5884.83 575	575163 0.0932007	07 5/8/19 13:56		0.670973	5.19737E+13	2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
575	575164 0.0946934	134 5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.027166	0.8135311	2.793214
575	575164 0.0946153	.53 5/8/19 14:06		0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
575	575164 0.0945802	102 5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
	575166 0.0950829	5/8/19 14:16			5.0966E+13	2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
	575166 0.0950307	-			5.0966E+13	2.8031651		0.0217633	0.6517383	2.8031651
5885.12 575	575166 0.095048	148 5/8/19 14:26		0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
575		_				2.836049	6.70217E+12	0.021451	0.6423859	2.836049
		_				2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
5906.61 575		_			5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2772942	2.8378267
575	575167 0.0962981	181 5/8/19 14:46		0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.1999116	5.986686	5.986686
	575170 0.095031	131 5/8/19 14:51			5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
5900.02		122 5/8/19 14:56	0.0200678		5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
575	575171 0.0950701	101 5/8/19 15:01			5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
		_				2.8070857		0.0254303	0.7615527	2.8070857
5890.65	575171 0.0951738	738 5/8/19 15:11		0.5107584		2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
575		\rightarrow				2.7967533	6.70217E+12	0.0232906	0.6974758	2.7967533
						2.837777	6.70217E+12	0.0222239	0.6655317	2.837777
5877.22 575						2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
5882.35 575		\rightarrow				2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
575		_				2.8331879	6.70217E+12	0.0260191	0.7791853	2.8331879
		_				2.8311646	6.70217E+12	0.0204508	0.6124333	2.8311646
		\rightarrow				2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
5898.69 575	575174 0.0961049	149 5/8/19 15:51		0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
	575175 0.0970802	302 5/8/19 15:56			5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
	575176 0.0971661	_				2.8661537		0.0209977	0.6288111	2.8661537
5891.31 575	575176 0.0970207	07 5/8/19 16:06		0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
5893.65	575176 0.0970592	92 5/8/19 16:11			4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
575	575177 0.0969298	98 5/8/19 16:16		0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
575	575177 0.0969567	67 5/8/19 16:21		0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
575	575178 0.097646	46 5/8/19 16:26	0.0174326	0.5220483	A 97007E+13	1,000,0	C 1 C C C C C	0.07400	010000	,0000
							6./U21/E+12	0.0215949	0.6466953	2.88031

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-	realized_rev	2.9020809	2.8770052	2.8774631	2.8762842	2.8756022	2.9177344	2.9160665	2.9147151	2.9403898	2.9410582	2.9519358	2.9556564	2.9600404	2.9659989	2.9635144	2.9759139	2.9097985	2.8912849	2.8899053	2.8918748	2.8916554	2.9074353	2.8761095	2.9743362	2.973594	2.9336031	2.9277617	2.9173636	2.9210566	2.9293068	2.9269103	2.9199909	2.9156448	2.9244451	2.979976	2.9824418	2.9792807	2.9798359	2.985978	2.9948159	3.019299	3.0984226	3.1266382	3.1060641	3.0556586	3.0455058	3.0455341	3.0454809	3.0449014	3.048817
۷	MP_rev	0.6202973	0.6678586	0.7622565	0.7510325	0.7369006	0.687.77	1.1507695	1.0914033	0.5719903	0.6893004	0.0907055	1.315584	1.2235699	0.512061	0.5509198	0.4897119	0.5566606	0.5193141	0.5626949	0.5410884	0.493557	0.5397527	0.5034574	0.3662927	0.4860853	0.2720804	0.3657117	0.2749553	0.4120811	0.4573874	0.3274938	0.4494755	0.4640805	0.4570191	0.6841645	0.4954017	0.4904485	0.4428273	0.4850731	0.42002	0.4625382	0.4703963	0.6448146	0.5557203	0.4898825	0.5643719	0.4030881	0.4933504	0.440222	0.4452411
-	real time_LMP_r	0.0207134	0.0223016	0.0254538	0.025079	0.02460/1	0.0226369	0.0384273	0.0364449	0.0191003	0.0230176	0.0030289	0.0439309	0.0408583	0.0170991	0.0183967	0.0163528	0.0185884	0.0173413	0.0187899	0.0180684	0.0164812	0.0180238	0.0168118	0.0122315	0.0162317	0.0090855	0.0122121	0.0091815	0.0137605	0.0152734	0.0109359	0.0150092	0.0154969	0.0152611	0.0228461	0.0165428	0.0163774	0.0147872	0.0161979	0.0140256	0.0154454	0.0157078	0.0215321	0.018557	0.0163585	0.0188459	0.0134602	0.0164743	0.0147002	0.0148678
_	network_diff re	12	6.70217E+12	6.70217E+12	6.70217E+12	6.7021/E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6 70217F+12
]	rev	60	2.8770052	2.8774631	2.8762842	2.8755022	2 9194522	2.9160665	2.9147151	2.9403898	2.9410582	2.9519358	2.9556564	2.9600404	2.9659989	2.9635144	2.9759139	2.9097985	2.8912849	2.8899053	2.8918748	2.8916554	2.9074353	2.8761095	2.9743362	2.973594	2.9336031	2.9277617	2.9173636	2.9210566	2.9293068	2.9269103	2.9199909	2.9156448	2.9244451	2.979976	2.9824418	2.9792807	2.9798359	2.985978	2.9948159	3.019299	3.0984226	3.1266382	3.1060641	3.0556586	3.0455058	3.0455341	3.0454809	3.0449014	2 0/9917
	est_network_hashrate	4.93807E+13	4.98424E+13	4.98424E+13	4.98424E+13	4.98424E+13	4.90323E+13	4.90525E+13	4.90525E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86669E+13	4.86669E+13	4.83948E+13	4.95535E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.84199E+13	4.84199E+13	4.90239E+13	4.92195E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.85444E+13	4.85444E+13	4.85444E+13	4.8544E+13	4.8544E+13	4.85444E+13	4.85444E+13	4.73117E+13	4.73117E+13	4.73117E+13	4.80997E+13	4.8162E+13	4.80789E+13	4.81808E+13	4.81808E+13	A 81808E±13
u	-MP_rev	83	0.5220483	0.5220483	0.5220483	0.5220483	0.3211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	7071705 U
ш	day_ahead_LMP_d	9:	0.0174326	0.0174326	0.0174326	0.01/4326	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013761
c	Ф	5/8/19 16:36		-		_	5/8/1917:06	_	_			5/8/19 17:31	5/8/19 17:36		-	5/8/19 17:51	5/8/19 17:56	5/8/19 18:01	_	_	_							_	5/8/19 18:57	5/8/19 19:02	_		_				_		_	_				5/8/19 20:12	5/8/19 20:17	0.1035905 5/8/19 20:22	5/8/19 20:27	5/8/19 20:32	5/8/19 20:37	5/8/19 20:42	0 1033586 5/8/19 20:47
	breakeven_mining_cost	0.0983841	0.097534	0.0975495	0.0975095	0.0974864	4:0909134 0.0909134	0.0988582	0.0988124	0.0996828	0.0997054	0.1000742	0.1002003	0.100349	0.100551	0.1004667	0.1008871	0.0986457	0.0980181	0.0979713	0.0980381	0.0980306	0.0985656	0.0975036	0.1008336	0.1008085	0.0994527	0.0992547	0.0989022	0.0990274	0.0993071	0.0992258	0.0989912	0.0988439	0.0991422	0.1010248	0.1011084	0.1010012	0.1010201	0.1012283	0.1015279	0.1023579	0.1050403	0.1059968	0.1052994	0.1035905	0.1032464	0.1032473	0.1032455	0.1032259	0 1033586
a	ight	0	575181	575181	575181	5/5181	575187	575182	575182	575183	575183	575183	575183	575183	575185	575185	575186	575188	575189	575189	575189	575189	575189	575189	575190	575190	575191	575192	575194	575194	575194	575194	575194	575194	575194	575195	575195	575195	575195	575195	575195	575195	575196	575196	575196	575199	575200	575202	575204	575204	575204
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4.7682E+13 3.0748598 4.7682E+13 3.0790099 4.7682E+13 3.0780831 4.7682E+13 3.0798806 4.70937E+13 3.1206959 4.72457E+13 3.1125773	0.172367 0.172367 0.172367	0.0057558		-
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36/ 5.00453E+13 2.93836/4 6./021/E+12 367 5.00453E+13 2.93858/8 6.70217E+12	0.1/236/	0.005/558		0.0996142 5/8/19 21:52
5.00453E+13 2.9309783	-0.1194423	-0.0039885		_
423 5.0337E+13 2.9101535 6.70217E+12	-0.1194423	-0.0039885		5/8/19 22:07
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5.05802E+13 2.8962791	-0.1194423	0.0039885	-0.0	5/8/19 22:22(
5.03487E+13 2.9069577	-0.1194423	0.0039885	-0.0	5/8/19 22:27
5.0348/E+13 2.9066/8	-0.1194423	0.0039885	0.0-	5/8/19 22:32
5.0348/E+13 2.90/8884	-0.1194423	7.0039885	7.0-	5/8/19 22:37
3.03328E+13	-0.1194423	3000000	0.0	0.0983331 3/8/19 22:42 -0.0
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3 5 1179F+13 2 8663937	-0 1194423	0.0030803	0.0	5/8/1922:52
4.92181E+13 2.9927906	-0.1800603	0.0060127	-0.0	5/9/19 0:02
603 4.89531E+13 3.0118316 6.70217E+12	-0.1800603	0.0060127	-0.0	0.1021048 5/9/19 0:07 -0.0
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4.89531E+13 5.01415/8	-0.1800603	7.0000127		0.1021830 5/9/19 0:22
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4.80475E+13 3.0557938	-0.1800603	-0.0060127		_
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4.82145E+13	-0.2530913	0.0084514	O-	5/9/19 1:37
4.80461E+13 3.0620845	-0.2530913	-0.0084514		
913 4.83765E+13 3.0421965 6.70217E+12	-0.2530913	-0.0084514		0.1031342 5/9/19 1:47
913 4.83765E+13 3.0484953 6.70217E+12	-0.2530913	-0.0084514		5/9/19 1:52
4.82077E+13 3.0575115	-0.2530913	-0.0084514		Ш
4.80568E+13 3.0669809	-0.2982389	-0.009959		
389 4.83264E+13 3.0500217 6.70217E+12	-0.2982389	-0.009959		0.1033994 5/9/19 2:07

Page: 34 Filed: 01/02/2024

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_	realized_rev	3.047740	3.040325	3.0700698	3.070946	3.075297	3.0287832	3.0244539	3.023510	3.0456209	3.04643	3.049695	2.968529	2.927084	2.926399	2.918185	2.93367	2.9286995	2.93151	2.9304978	2.9303189	2.9273362	2.9892481	2.9835001	2.9782848	2.9801806	2.985863	2.9864013	3.0306289	3.02707.0	3.0488459	3.053633	3.055966	3.0246966	3.027855	3.005760	3.0040629	3.0025339	3.0039438	3.006947	3.0682693	3.0613901	3.0593	3.0593599	3.054132	3.0671699	3.077692	3.0733946	3.0735219	1
¥	real_time_LMP_rev	-0.7593756	-0.8297742	-0.7779934	-0.8033103	-0.7197052	-0.7503587	-0.5504527	-0.6318866	-0.8413995	-0.7646612	-0.1056039	-0.7120329	-0.6817508	-0.7239517	-0.7385028	-0.684476	-0.7117215	-0.6874347	-0.6531578	-0.6847335	-0.7727947	-0.6664601	-0.6022155	-0.6613332	-0.5678217	-0.8528391	-0.7944132	-0.6597311	-0.7473049	-0.8562231	-0.8293849	-0.5673725	-0.6405083	-0.8534351	-0.7617564	-0.6655766	-0.735002	-0.8147021	-0.7787631	-0.4439833	-0.7331184	-0.7303603	-0.5954955	-0.5955643	-0.5953158	-0.519973	-0.5472753	-0.2389834	
ſ	real_time_LMP r	-0.0253576	-0.0277084	-0.0259793	-0.0268247	-0.0240329	-0.0250565	-0.0183811	-0.0211004	-0.0280966	-0.0255341	-0.0035264	-0.0237767	-0.0227655	-0.0241747	-0.0246606	-0.0228565	-0.0237663	-0.0229553	-0.0218107	-0.0228651	-0.0258057	-0.0222549	-0.0201096	-0.0220837	-0.0189611	-0.0284786	-0.0265276	-0.0220302	-0.0249572	-0.0285916	-0.0276954	-0.0189461	-0.0213883	-0.0284985	-0.0254371	-0.0222254	-0.0245437	-0.0272051	-0.026005	-0.0148258	-0.0244808	-0.0243887	-0.0198852	-0.0198875	-0.0198792	-0.0173633	-0.018275	-0.0079803	
_	network_diff	6.70217E+12				6.70217E+12	0.702175+12	6.70217E+12			3.0735219 6.70217E+12	L																																						
т	mining_rev	3.0477407	3.040325	3.0700698	3.070946	3.0752977	3.0287832	3.0244539	3.0235101	3.0456209	3.046431	3.049695	2.9685297	2.9270841	2.9263997	2.9181857	2.933671	2.9286995	2.931513	2.9304978	2.9303189	2.9273362	2.9892481	2.9835001	2.9782848	2.9801806	2.985863	2.9864011	3.0306289	3.0270730	3.0488459	3.0536332	3.0559662	3.0246966	3.027855	3.0057607	3.0040629	3.0025339	3.0039438	3.0069471	3.0682693	3.0613901	3.05937	3.0593599	3.0541327	3.0671699	3.077692	3.0733946	3.0735219	
9	est_network_hashrate	4.83264E+13	4.83264E+13	4.79408E+13	4.79408E+13	4.79168E+13	4.86237E+13	4.86237E+13	4.86237E+13	4.82542E+13	4.82542E+13	4.82017E+13	4.96368E+13	5.0337E+13	5.03106E+13	5.03106E+13	5.00453E+13	5.02257E+13	5.02257E+13	5.02257E+13	5.02257E+13	5.02257E+13	4.91264E+13	4.91264E+13	4.9181E+13	4.9181E+13	4.9181E+13	4.9181E+13	4.84471E+13	4.044/15+13	4.80809E+13	4.80809E+13	4.80809E+13	4.85847E+13	4.85847E+13	4.89101E+13	4.89101E+13	4.89101E+13	4.89101E+13	4.89101E+13	4.79481E+13	4.80762E+13	4.80762E+13	4.80762E+13	4.80762E+13	4.78531E+13	4.76524E+13	4.76695E+13	4.76695E+13	
ш	day_ahead_LMP_rev	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2982389	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.2323712	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.192015	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	-0.0300665	0.2991402	0.2991402	0.2991402	
В	day_ahead_LMP c	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.009959	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0077595	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.0064119	-0.001004	-0.001004	-0.001004	-0.001004	-0.001004	-0.001004		-0.001004	-0.001004	-0.001004	-0.001004	-0.001004	0.0099891	0.0099891	0.0099891	
٥	datetime	5/9/19 2:12	5/9/19 2:17	5/9/19 2:22	5/9/19 2:27	5/9/19 2:32	5/9/19 2:37	5/9/19 2:43	5/9/19 2:48	5/9/19 2:53	5/9/19 2:58	5/9/19 3:03	5/9/19 3:08	5/9/19 3:13	5/9/19 3:18	5/9/19 3:23	5/9/19 3:28	5/9/19 3:33	5/9/19 3:38	5/9/19 3:43	5/9/19 3:48	5/9/19 3:53	5/9/19 3:58	5/9/19 4:03	5/9/19 4:08	5/9/19 4:13	5/9/19 4:18	5/9/19 4:23	5/9/19 4:28	5/9/19 4:33	5/9/19 4:30	5/9/19 4:48	5/9/19 4:53	5/9/19 4:58	5/9/19 5:03	5/9/19 5:08	5/9/19 5:13	5/9/19 5:18	5/9/19 5:23	5/9/19 5:28	5/9/19 5:33	5/9/19 5:38	5/9/19 5:43	5/9/19 5:48	5/9/19 5:53	5/9/19 5:58	5/9/19 6:03	5/9/19 6:08	5/9/19 6:13	
U	breakeven_mining_cost	0.1033221	0.1030707	0.1040791	0.1041088	0.1042563	0.1026794	0.1025327	0.1025007	0.1032503	0.1032777	0.1033884	0.1006368	0.0992317	0.0992085	0.09893	0.099455	0.0992865	0.0993819	0.0993474	0.0993414	0.0992403	0.1013391	0.1011443	0.1009675	0.1010317	0.1012244	0.1012426	0.102742	0.1026213	0.1033596	0.1035219	0.103601	0.1025409	0.102648	0.1018989	0.1018414	0.1017896	0.1018373	0.1019392	0.1040181	0.1037848	0.1037164	0.103716	0.1035388	0.1039808	0.1043375	0.1041918	0.1041961	
В	block_height b	575238	575238	575239	575239	575240	575242	575242	575242	575243	575243	575244	575246	575249	575250	575250	575251	575252	575252	575252	575252	575252	575253	575253	575254	575254	575254	575254	575255	373232	575256	575256	575256	575257	575257	575258	575258	575258	575258	575258	575259	575260	575260	575260	575260	575261	575262	575263	575263	
4	BTC_price b	6066.1	6051.34	6061.78	6063.51	20.6909	6065.45	6056.78	6054.89	6052.82	6054.43	6054.32	6068.65	6068.33	6063.73	6046.71	6046.74	6058.26	6064.08	6061.98	6061.61	6055.44	6048.17	6036.54	6032.68	6036.52	6048.03	6049.12	6047.1	0040.01	6037.47	6046.95	6051.57	6052.41	6058.73	6054.8	6051.38	6048.3	6051.14	6057.19	6059.15	6061.72	6057.72	6057.7	6047.35	6044.98	6040.28	6034.01	6034.26	

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\neg	BTC_price	block_r	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	Ε	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
767	6032.26	575264				0.2991402	4.79148E+13	c	6.70217E+12	-0.0017763		3.0567726
292	6035.08	575266	0.1012996	5/9/19 6:33	0.0099891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
692	6038.27	575266		5/9/19 6:38	0.0099891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698		2.9896604
270	6038.35			5/9/19 6:43	0.0099891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978		2.9625364
771	6041.06	575267	7 0.1004787	5/9/19 6:48	0.0099891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	9 0.1003466	5/9/19 6:53	0.0099891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	9 0.1004467	5/9/19 6:58	0.0099891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6023.18	575269	9 0.1001899	5/9/19 7:03		0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
9//	6028.56	575270	0 0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
177	6023.05	575271	1 0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
477	6004.55	575271	1 0.0997183	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780	6023.65	575271	1 0.1000355	5/9/19 7:33	0.015734	0.4711809	4.95649E+13	2.9507939	6.70217E+12	-0.0044118	-0.1321187	2.9507939
781	6022.52	575272	0.1006869	5/9/19 7:38	0.015734	0.4711809	4.9235E+13	2.9700094	6.70217E+12	-0.0183056	-0.5481917	2.9700094
782	6016.76	575272	2 0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.004465		2.9671688
783	6007.87	575272	0.100442	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.0011594	-0.0347202	2.9627847
784	5998.51		0		0.015734	0.4711809		2.9581688	6.70217E+12	-0.0019525		2.9581688
785	6004.67	575273	3 0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
982	5986.82	575273	3 0.1015452	5/9/19 8:03		0.6370794		2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	3 0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	3 0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.0088876	0.266154	2.989773
789	5974.19	575273	3 0.101331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
260	5989.16	575275	5 0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	608500'0	0.1739602	3.0130416
791	5989.1	575275		5/9/19 8:28	0.0212738			3.0130114	6.70217E+12	0.0001868		3.0130114
792	5990.38	575275	5 0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	5 0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276		_		0.6370794			6.70217E+12	0.0003791	0.0113528	3.0699468
795	6015.23			5/9/19 8:48		0.6370794		3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
96/	6006.59				0.0212738	0.6370794		3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	6 0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276		5/9/19 9:03		0.6314854			6.70217E+12	0.0154138		3.063434
662	6009.31	575277		5/9/19 9:08		0.6314854			6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	7 0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277		_	0.021087	0.6314854		3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98			_		0.6314854		3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8			_		0.6314854	4		6.70217E+12	0.0098213	0.2941152	3.13224
804	86.8009			_		0.6314854			6.70217E+12	0.0137284	0.4111198	3.0579847
802	6005.02			5/9/19 9:38	0.021087	0.6314854		3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
908	5992.86					0.6314854		_	6.70217E+12	0.019156		3.0497812
807	6001.7					0.6314854		3	6.70217E+12	0.0155476		3.0542799
808	5996.77	575281		5/9/19 9:53	0.021087	0.6314854		3.051771	6.70217E+12	0.0127646		3.051771
809	5997.26	575281	1	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281				0.6508069		3.050967	6.70217E+12	-0.0001443	-0.0043213	3.050967
811	5995.19					0.6508069			6.70217E+12	0.0134747		3.050967
812	5978.15	575281	0.1031375	5/9/19 10:13		0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281	0.1033323	5/9/19 10:18	0.0217322	6908059'0	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74					0.6508069			6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06					0.6508069			6.70217E+12	0.0234385		3.1630047
816	6009.71					0.6508069			6.70217E+12	0.0203173		3.1829698
817	5995.73	575283	3 0.1076555	5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655

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BTC_price block_height breakeven_mining_cost datetime day_ahead_LMP	breakeven_mining_cost datetime day_ahead_	datetime day_ahead_	day_ahead_			day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
6000.73 575284 0.1065399 5/9/19 10:43 0.0217322	575284 0.1065399 5/9/19 10:43 0.0	0.1065399 5/9/19 10:43 0.0	0.0	0.02173	322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
6007.62 575284 0.1066622 5/9/19 10:48 0.0217	575284 0.1066622 5/9/19 10:48 0.0	0.0	0.0	0.0217	217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
6006.48 575284 0.106642 5/9/19 10:53 0.021	575284 0.106642 5/9/1910:53 0.0	0.0	0.0	0.021	217322	0.6508069	4.63618E+13	3.1456683	6.70217E+12	0.0226632	0.6786873	3.1456683
5999.23 575284 0.1065133 5/9/19 10:58 0.02	575284 0.1065133 5/9/19 10:58 0.0	0.1065133 5/9/19 10:58 0.0	0'0	0.02	217322	0.6508069	4.63618E+13	3.1418714	6.70217E+12	0.2007318	6.0112483	6.0112483
6004.02 575284 0.1065983 5/9/1911:03 0.02	575284 0.1065983 5/9/1911:03 0.0	t 0.1065983 5/9/1911:03 0.0	0.0	0.02	1217961	0.6527205	4.63618E+13	3.14438	6.70217E+12	0.0307427	0.9206414	3.14438
6000.99 575284 0.1065445 5/9/1911:08 0.02	575284 0.1065445 5/9/1911:08 0.0	1 0.1065445 5/9/19 11:08 0.0	0.0	0.02	217961	0.6527205	4.63618E+13	3.1427931	6.70217E+12	0.0293874	0.8800547	3.1427931
6003.38 575284 0.1065869 5/9/1911:13 0.02	575284 0.1065869 5/9/1911:13 0.0	0.1065869 5/9/1911:13 0.0	0.0	0.02	217961	0.6527205	4.63618E+13	3.1440448	6.70217E+12	0.0349274	1.0459592	3.1440448
6014.88 575284 0.1067911 5/9/1911:18 0.02	0.1067911 5/9/19 11:18 0.0	0.1067911 5/9/1911:18 0.0	0.0	0.02	217961	0.6527205	4.63618E+13	3.1500675	6.70217E+12	0.0260766	7.1809072	3.1500675
6026.81 575284 0.1070029 5/9/1911:24 0.023	t 0.1070029 5/9/1911:24 0.0	t 0.1070029 5/9/1911:24 0.0	0.0	0.02	217961	0.6527205	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Ziyi Koh <ziyi.koh@sbibits.com>, Jonathan Tanemori

<jonathan.tanemori@sbibits.com>, Jerry Chan <jerry.chan@sbibits.com>

Date: Thu, 27 Sep 2018 16:11:42 -0500

Importance: Normal

Attachments: EDFR-Lancium Hereford Terms Summary DRAFT 20180926.docx;

Acciona_2018SEP19_Site_Visit.pdf; ServiceNow_Location_Entry.png; ServiceNow Device Entry.png; Tier44 Power Management Dashboard.png

SBI Agenda for Call / Sept 27th

Deal Status

Invenergy / McAdoo

- Special T&D Tariff
 - Lowest T&D level appears to be around ~\$3 \$4/MWh
 - This tariff level wouldn't allow us to achieve <\$25/MWh pricing and give Invenergy a material price uplift at McAdoo
 - Self Generation Structure now preferred path
 - o Invenergy has recruited more team members to structure transaction

Acciona / Dempsey Ridge

- Legal confirmation that no other approvals required except FERC exemption
- Successful site visit last week (See "Acciona 2018SEP19 Site Visit")
- Follow up technical visit mid October

EDF / Hereford I

- Nearly finalized term sheet (See "EDFR-Lancium Hereford Terms Summary DRAFT 20180926" for latest turn)
- Very adverse pricing environment which should allow Lancium's electricity cost to be to be below \$20/MWh

NextEra / Blue Summit

Term sheets exchanged and awaiting NEE feedback

Lincoln Clean Energy / Orsted

- Orsted (Danish national utility) recently agreed to purchase LCE
- LCE now re-engaged with Lancium for data centers at wind operations in TX
- Asked us to review their largest development project (Tahoka 900MW multistage wind farm!)

Build and Operational Update

Box Build

- Delivered on Sept 24th
- Energized and operational
- Video files are in the SBI due diligence drive at: SBI/Update Videos Sept 27
- JV Driver team and outside engineering convening in Houston next week
- Finalize design specs on next 5MW for delivery at end of Oct

Thomas Road / Ramping Testing

- 2.5MW Stage 1 complete
- NOC and offices now nearly complete
- Ramping successful for full 120 miners in under 5 min up and down (<2 min down and <4 min up)
- Tier44 and ServiceNow systems now functional and running (See "ServiceNow" & "Tier44" pictures attached)

Site Visit

We are ready for week of Oct 15th

Patent Filings

- Four new filings in Sept:
 - o 18-865 Systems and Methods for Dynamic Power Routing with Behind-the-Meter Energy Storage
 - o 18-872 Providing Computational Resource Availability Based on Power-Generation Economics
 - o 18-873 System of Critical Datacenters and Behind-the-Meter Flexible Datacenters
 - o 18-1113 Methods and Systems for Distributed Power Control

Other Items:

Update on Tariff Considerations

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(917) 833-2720

BUSINESS CONFIDENTIAL AND PROPRIETARY

EDFR DRAFT 09/19/2018

SUMMARY OF TERMS: EDFR-Lancium Hereford Behind-the-Meter Energy Sale

The following is a summary statement of the principal terms and conditions relating to a potential transaction. It is not a commitment or binding offer to enter into any agreement and is not a comprehensive statement of all of the terms and conditions of the proposed transaction.

1.	Buyer	Lancium LLC entity [NTD: Specific entity and relationship to Lancium to be defined.]		
2.	Wind Seller	EDF Renewables Asset Management on behalf of the Hereford I Wind Project LLC ("Hereford") via Deaf Smith Electric Cooperative ("Coop")		
3.	Wind Project	Hereford I Wind project, a 200 MW operating wind electric generating facility located in Deaf Smith County, TX owned by EDF Renewables and Blackrock, Inc.		
4.	Server Facility	A distributed data center facility to be constructed and operated by Buyer. The Server Facility will require a minimum of [X] MW of electric power ("Auxiliary Power") and a maximum of [Y] MW ("Maximum Power"). Server Facility will ramp up and down between Auxiliary Power and Maximum Power in response to available output from Wind Project.2 Auxiliary Power will be the power required to power critical networking and control systems. If Auxiliary Power exceeds the MW output available from Wind Project at		
		any point in time, Buyer will purchase that excess from Coop as defined in "19. Other Agreements" below. ³		
5.	Wind PPA	Buyer and Wind Seller will enter into back to back power purchase agreements with Coop (further described in other agreements below). Wind Seller will sell and deliver to Buyer via Coop, and Buyer will purchase and accept from Wind Seller, via Coop all of the net electric energy generated by the first [Y] MW slice of Wind Project generating capacity ("Generation Slice") and delivered to the POI defined below ("Wind Energy"), but excluding all associated environmental credits, including all renewable energy credits, benefits, offsets, and allowances generated by the Wind Project, as well as any investment or production tax credits or similar government incentives. The Generation Slice MW amount will be equal to the Maximum Power MW amount, which will be the same as the Server Facility nameplate MW. ⁴ The Buyer will purchase and accept all Wind Energy produced by the lower		

¹ NTD: Auxiliary power assumed to be approximately 5% of Maximum Power. Specific MW level to be discussed and detailed.

² NTD: Server Facility ramp rate and MW increments to be discussed, recognizing ramping down will be faster than ramping up.

³ NTD: Buyer to confirm that Auxiliary Power will be drawn from Hereford when available

⁴ NTD: Such MW amount will vary between Implementation and Commercial phases as detailed below.

Document: 39-7 Page: 40 Case: 23-1922 Filed: 01/02/2024

BUSINESS CONFIDENTIAL AND PROPRIETARY

		of as-available Wind Project MW output and the Generation Slice MW output over any measurement period, subject to the provisions below in "12. Curtailments". ⁵		
6.	Conditions Precedent	Seller: Legal and Senior management review and approval of the terms and conditions and Seller's Board Approval.		
		Buyer: Buyer's Board or Risk Committee approval and confirmation that Buyer has the right from Deaf Smith Electric Coop and Golden Spread Electric Coop (if applicable) to pursue this energy purchase contract. ⁶		
7.	Term	Implementation Phase for a Generation Slice of [5] MW will have an initial term of [1] year.		
		Commercial Phase for a Generation Slice of [45] will have an initial term of [2] years, commencing at conclusion of Implementation Phase. ⁷		
		Buyer and Seller will have option to extend an additional two years if mutually agreed.		
8.	Base Price	The real-time settlement price per MWh received by Wind Seller for power sold at the Wind Project's ERCOT node.		
9.	Contract Price	The <u>Base Price</u> , plus an adder of \$[10.50] per MWh (the " <u>Adder</u> ").		
		The Adder to be paid to Wind Seller will be reduced by 50% of the aggregate administrative fee charged by Coop to Buyer		
10.	Interconnection	Buyer will be responsible for all costs and risks associated with the development, construction, completion and operation of the Server Facility and its interconnection to the Wind Project. Such costs will include the installation of a power circuit breaker or similar equipment at the main collector substation of the Wind Project to be specified in the Wind PPA (the "POI"), as well as a power meter and the Main Power Isolation Equipment further described below.		
		Wind Seller will have the right to inspect installation and interconnection of the Server Facility and all related equipment, including the Isolation Equipment. Wind Seller will likewise have approval rights for contractor(s) and plans selected by Buyer prior to commencement of any work on Interconnection. ⁸		
		To the extent interconnection of the Server Facility results in a loss of generation from the Wind Project, Buyer shall reimburse Seller for the		

⁵ NTD: Definite Agreement may include consideration of "over powering" options for Server Facility and associated physical and financial parameters, to be discussed.

⁶ NTD: Seller's final participation in this deal is very likely subject to review and approval by the Hereford Project Tax Equity Providers and potentially other equity and hedge parties. Clarification of the roles of Deaf Smith Electric Coop and Golden Spread Electric Coop will also be required.

7 NTD: Parties to discuss conditions required to move from Implementation to Commercial Phase.

⁸ NTD: Buyer wishes for Seller to pick contractor(s) based on experience and relationships.

Document: 39-7 Page: 41 Filed: 01/02/2024 Case: 23-1922

BUSINESS CONFIDENTIAL AND PROPRIETARY

		arising lost revenue, computed as the expected generation times the Base Price during the outage period, up to a maximum equal to the Credit Support as defined below. Interconnection of the Server Facility may require all or a portion of the Wind Project to be taken offline for a period not to exceed [•] hours and at a date and time selected by Wind Seller.
11.	Isolation	Buyer will install a breaker switch and/or such other equipment as Wind Seller may require on the electric distribution line running from the POI to the Server Facility as may be necessary to allow Wind Seller to isolate the Server Facility from the circuit of which it is part (the "Main Isolation Equipment").
		The Wind PPA will give Wind Seller complete control of the operation of the Main Isolation Equipment and the portion of the distribution line running from the POI to the Main Isolation Equipment. ⁹
12.	Curtailments	Wind Seller will have the right to curtail delivery of Energy to Buyer in its discretion, through operation of the Main Isolation Equipment or otherwise, to avoid potential injury to individuals or to property. In no case will non-delivery of Wind Energy give rise to any further obligation to Buyer.
		Buyer will have the right to curtail Wind Energy delivered pursuant to the Wind PPA, (1) for safety purposes (2) if the Base Price plus the Adder is greater than [\$75.00 per MWh on an hour ahead basis] and (3) for a period of twenty-fours each calendar quarter to perform maintenance on the Server Facility. In no case will non-acceptance of Wind Energy give rise to any further obligation to Buyer. ¹⁰
13.	Permitting	Buyer will be responsible for obtaining all permits at Buyer's time, risk and expense necessary for the construction, operation and maintenance of the Server Facility and related equipment in accordance with good utility practice. Buyer will similarly be responsible for obtaining permits necessary for the purchase of wind energy from Wind Seller. Wind Seller will provide assistance to Buyer in obtaining such permits, upon Buyer's reasonable request and at Buyer's expense. Permits to be obtained by Buyer will be listed in the Wind PPA and Buyer will provide periodic reports to Wind Seller on progress toward obtaining them.
		For the avoidance of doubt, Wind Seller will not have the authority to require Lancium to obtain wildlife or similar permits that are not required or recommended by any governmental authority.
14.	Credit Support	To secure its obligations under the Wind PPA, Buyer will establish credit support in the form of a Letter of Credit, Cash Collateral, or other Acceptable form as agreed by Seller. Buyer credit support shall be in the amount of 3 months of Adder on the Maximum Power amount for each Phase. ¹¹

⁹ NTD: Wind Seller rights and triggers for isolating server facility to be fully defined in a Definitive Agreement.

¹⁰ NTD: Safety purposes and maintenance non-acceptance to be further discussed. Parties also to discuss time frame for providing curtailment directives and also ramp up/ramp down directives.

11 NTD: Specific credit \$ amounts to be computed based on final details of Generation Slice and Adder.

BUSINESS CONFIDENTIAL AND PROPRIETARY

1.5			
15.	Cooperation	The parties will agree to cooperate and exchange information reasonably necessary to permit, construct, interconnect and operate the Server Facility.	
16.	Title and Risk of Loss	[Title and risk of loss to the Energy will pass from Wind Seller to Buyer at the locations of the Main Isolation Equipment.] ¹²	
17.	Operating Procedures	The Wind PPA will set forth key points of contact for Wind Seller and Buyer to coordinate the daily administration of the Wind PPA. Wind Seller will provide [hourly] forecasting of available Wind Energy to Buyer or such other incremental forecasting as may be necessary for the safe operation of the Server Facility. ¹³	
		Buyer maintenance personnel will have access to the restroom facilities in the Wind Project's O&M building when on site, as well as any open conference room facilities as they may be available.	
		At Buyer's cost, Wind Seller will provide Buyer with access to necessary communications equipment via [a fiber connection] from the Server Facility to the Wind Project's O&M building or otherwise.	
		Operating protocol between Wind Seller and Wind Buyer shall form an appendix to the Wind PPA. Operating protocol will specify Scheduling obligations.	
18.	Remedies; Mitigation	In the event of a dispute relating to the Wind PPA, Wind Seller and Buyer will nominate executive employees following formal notice of dispute from either party for meetings and in-person discussions to take place over two weeks. In the event such dispute is not resolved at the end of two weeks, the parties will elect a neutral third-party arbitrator to resolve their dispute following submission of written arguments by both parties. ¹⁴	
19.	Other Agreements	To facilitate the Wind PPA, Wind Seller, Coop and Buyer will enter int simultaneous "back-to-back" power purchase agreements for the sale an purchase of Wind Energy to be delivered by the Wind Seller to the POI (th "PPAs"). Terms of the PPAs will be separately negotiated between the Buyer and Coop. Buyer will work with Coop to include Golden Spread if the PPA between Buyer and Coop, if and as required. 15	
		Buyer and Coop will enter into a separate power purchase agreement for the sale and purchase of electric energy as may be necessary for the continuous operation of heating and air conditioning equipment within the Server Facility to the extent Wind Energy is not available to support such equipment at any time. This separate electric energy will be procured by Coop and in turn delivered to Buyer.	
		Buyer will enter into a real property lease pursuant to which the owner(s) of land adjacent to the Wind Project's substation will lease to Buyer the right	

 $^{^{12}\,}$ NTD: To be discussed in context of Coop role in transaction

¹³ NTD: Forecasting obligations to be discussed

¹⁴ NTD: Dispute resolution escalation approach to be discussed

¹⁵ NTD: Specific points of negotiation and contracts required that may be separate from the Wind Seller PPA to be discussed.

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		to construct, maintain and operate the Server Facility and related equipmer on a parcel of property approximately 150' by 150'.	
20.	Assignment	Buyer may assign or transfer the Wind PPA or the Other Agreements in whole or in part, only with Wind Seller's prior written approval, not to be unreasonably withheld. For purposes of the foregoing sentence, assignment will include collateral assignment and any change of control of Buyer. Buyer's assigned party shall be responsible for providing credit security at least equal to Buyer, as defined by rating, net worth, or other metric to be specified in the Definitive Agreement. Seller may assign or transfer the Wind PPA or the Other Agreements in whole or in part to affiliates or to any new full or partial owners of Wind Project representing cash equity.	
21.	Confidentiality and Information Release	The Term Sheet and information relating to or referencing this Term Sheet, and any draft documents or oral communications exchanged between the parties in connection with this Term Sheet are considered "Confidential Information" for purposes of the Nondisclosure Agreement between Buyer and Seller. The parties agree to treat Confidential Information disclosed hereunder in accordance with the terms and conditions of the NDA. None of the parties or their affiliates will issue any statement or communication to any third party or share the Confidential Information of or related to this Term Sheet (other than with its legal and accounting advisors, potential lenders, equity investors, acquirers or assignees who agree to keep such information confidential) regarding the Term Sheet, including, if applicable, its termination and the reasons therefor, without the written consent of the other party. 16	

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¹⁶ NTD: Parties to discuss requirements for Confidentiality with third party contractors (e.g., engineering) and if additional NDAs are necessary.

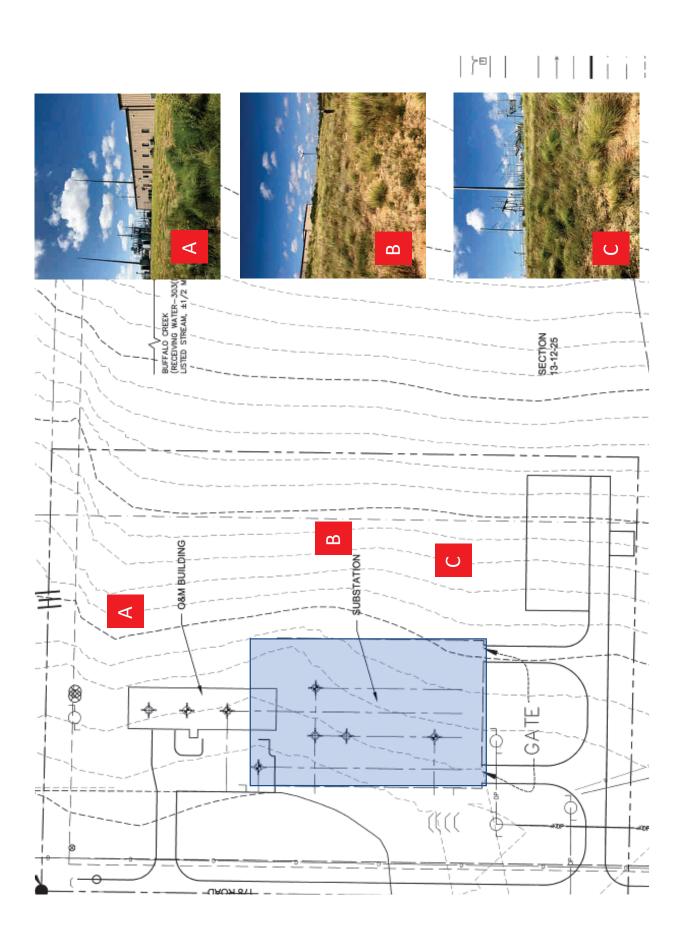
> Bearbox v Lancium Trial Exhibit **TX178**

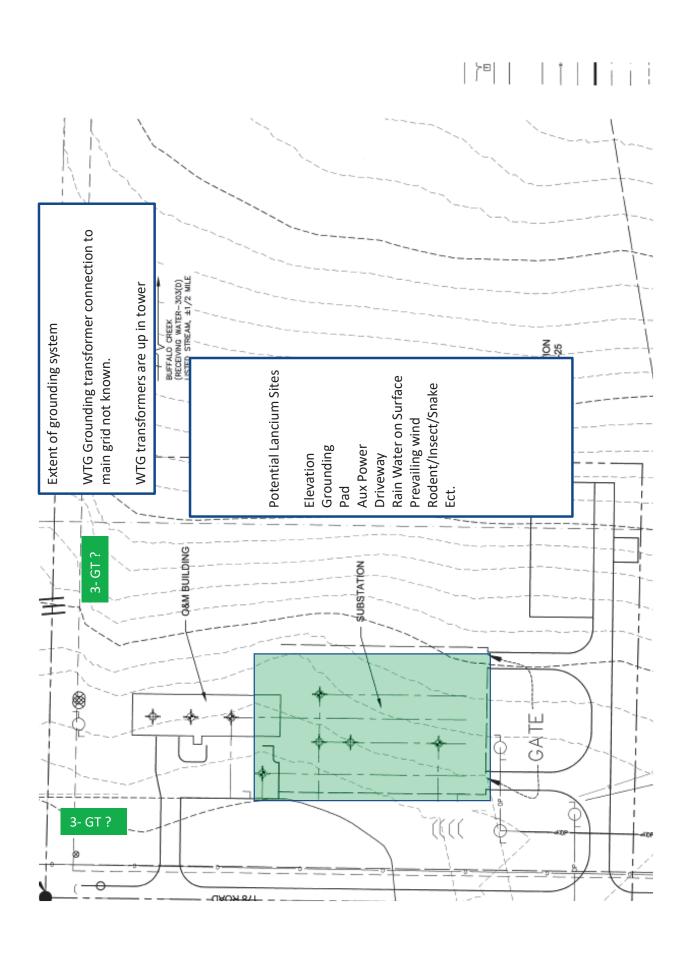
LANCIUM00014635

Acciona Big Smile

Site Visit September 19, 2019

Majors Topics regarding Interface to Lancium







Case: 23-1922

Septic tank, possible leaching field East of OM building



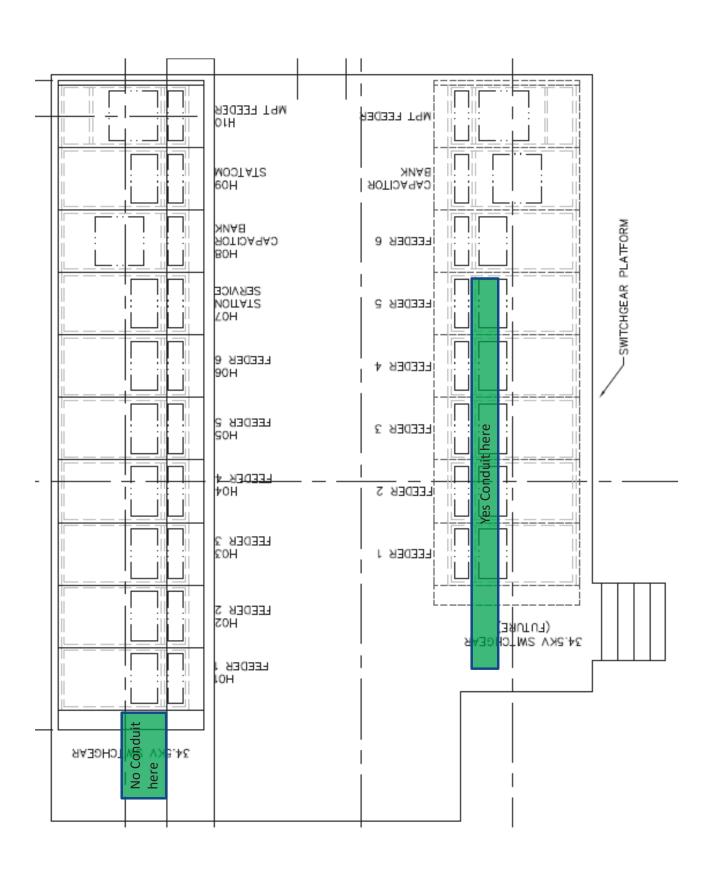
Water Well Pump House, NW of OM building



under NW corner of Switchgear deck, Unused conduit for future WTG's, Note, it is not under NE corner,



34kV general arrangement, installed on top of elevated deck.

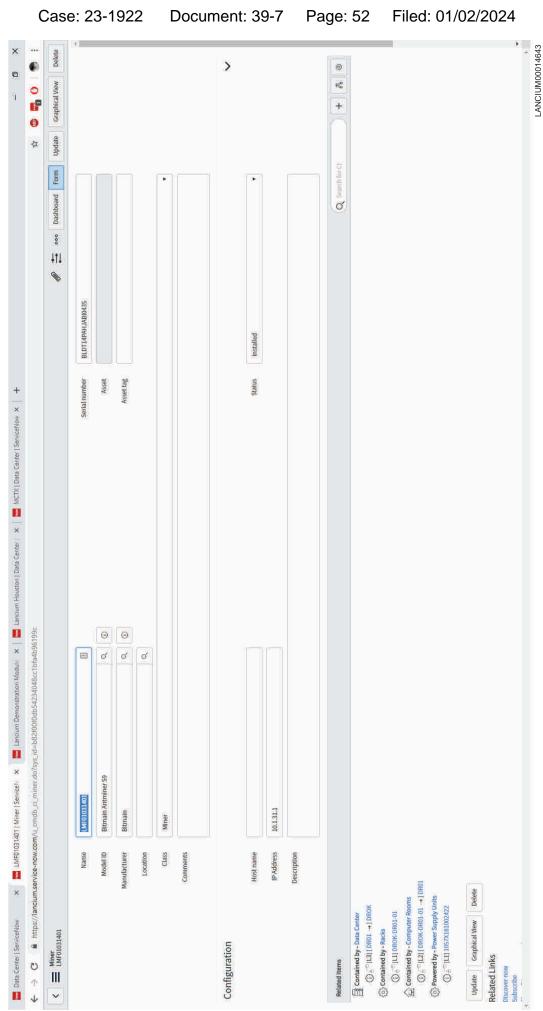




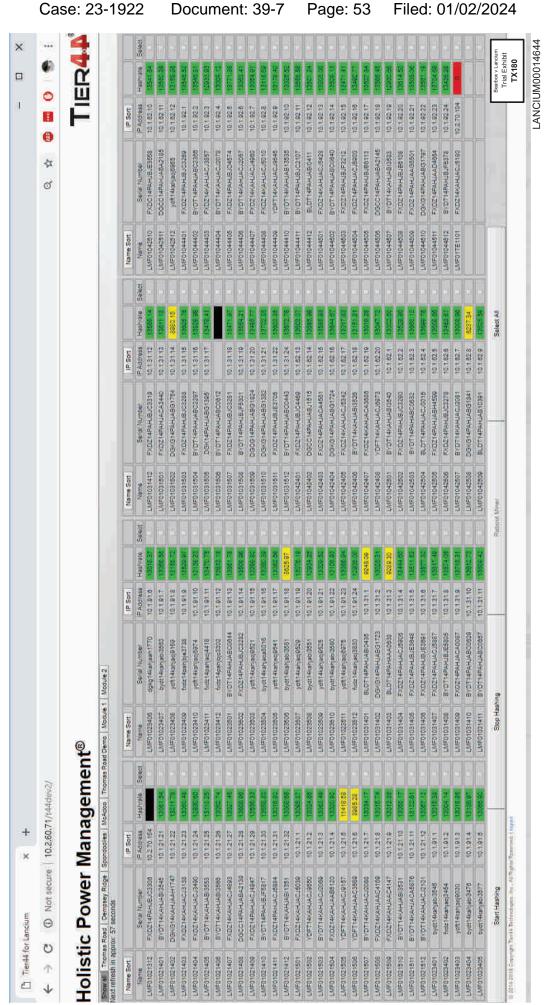


Case: 23-1922 Page: 51 Document: 39-7 Filed: 01/02/2024 LANCIUM00014642 × (2) 1 to 4 of 4 >> 1 to 4 of 4 ▶ ▶▶ Ð 0 Bearbox v Lancium Trial Exhibit TX179 ď ٥ 1 F ď ■ Power consumption 월 VIII Vitor Henrique ₽ * å https://lancium.service-now.com/nav_to.do?uri=%2Fcmdb_ci_datacenter_list.do%3Fsysparm_userpref_module%3Da338c6et24fd99600d3eee321a310c71c%26sys... 2,000,000 2,000,000 2,000,000 2,000,000 **≡** Power Dempsey Ridge Wind Farm McAdoo Wind Farm Lancium HQ Lancium HQ **≡** Location Search • Lanctum Demonstration Module Go to Name Lancium Houston Actions on selected rows... ■ Name ▲ Data Center New DROK MCTX 0 Θ Θ 0 o Ш Da (0) Service Management 0 www Data Center | ServiceNow My Notification Preferences My Assessments & Surveys My Tagged Documents My Knowledge Articles **WICHINA** My Connected Apps P Filter navigator O **Getting Started** Take Survey My Profile Service Desk Tier44 EM/8 My Assets Map View 1 My Tags 0

Appx11408



Appx11409



Appx11410

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Jon Cohen <jon.cohen@lancium.com>, David Henson <david.henson@lancium.com>, Raymond Cline <recline@lancium.com>, Eric Kutscha <eric.kutscha@lancium.com>, Ian Rock <ian.rock@lancium.com>, Lloyd Geisler <lloyd.geisler@lancium.com>, Prashant Gupta <munshiji@gmail.com>

Subject: Demo Day Script

Date: Sun, 26 Aug 2018 13:17:06 -0700

Please see below for my ideal demonstration day. Please give feedback and we can amend and get to Clemens / CDI etc.

SBI Walk Through on Demonstration Day

Lancium / Tier 44 Introduction / Conference Room (30 min)

- Overview of the Lancium system
 - o Tier44 and ServiceNow intro with emphasis on scalability and platform
- High level information on technical aspects of solution as it concerns S9's
 - o Bus system commands / shell scripts / BM Miner etc
 - Functionality now and in the future
- Power Assure history and Tier44 origins
- Details on power ramping opportunity
 - Potential market in data centers / corporates / resources management for other servers
 - Opportunities and challenges

Network Operating Center Introduction / NOC (30 min)

- Represent three separate installations: Thomas Road, Project A, Project B
- Display map of TX on main NOC screens showing "geographic location" of all three projects
- Select Thomas Road
 - Load chart of current power price
 - Load chart of current available miners
 - Load status of all miners (120 available /120 mining etc)
 - o Load historical (last 24 hours and last 30 days) of KPIs (power consumed, TH of hashing performed, power cost over time period, economic outcome)
- Select Project A (review same statistics)
- Trouble Ticket walk through (minor)
 - o E.g. miner at half hashing power -> soft reboot x4 -> if not fixed escalate to technician ticket
- Trouble Ticket walk through (major)
 - E.g. fire detected -> drop all power -> drop louvers -> send HIGHEST PRIORITY technician ticket

Thomas Road Facility Walk Through (30 min)

- [We may have 10,000 SBI miners at this time so content subject to change]
- Tour of facility racks with emphasis on:
 - Cooling and airflow
 - o Busway system
 - Testing performed on heat tolerance of S9's
 - Testing performed on ramping history/tolerance of S9's
- Tour of Demo Box with emphasis on:
 - Cooling and airflow
 - Fire suppression
 - o Cost
 - o Improvements to be made in Commercial boxes today and in future generations

Ramping Demonstration (the fireworks!) (30 min)

- Scripted: Walk to floor racks representing "Project A"
 - $_{\odot}\,$ Display iPhone or iPad that indicates power prices are spiking and they tick up to \$72/MWh, \$73/MWh etc
 - When prices hit \$75/MWh all the racks drop power in real time and miners go to idle

- Scripted: Walk to Demo Box representing "Project B"

 o Display iPhone or iPad that shows that power production from Project B Wind Farm is dropping
 - o Turn off half the racks (maybe in a rack by rack cascade other half of racks still running) in real time to represent dynamic ramping capability Scripted: Return to "Project A" racks
- - o Show power price down to \$50/MWh and miners ramping back up to full power

(917) 833-2720

From: Raymond Cline < recline@lancium.com>

To: "ian.rock" <ian.rock@lancium.com>, Stewart Hair <stewart@lancium.com>

Subject: Got it!

Date: Wed, 27 Jun 2018 22:26:54 -0500

I found that there is a monitoring script that looks every 20 seconds to see if bmminer and single-board-test (the components needed for mining) are running. If they are not, it restarts them. It then takes about 6 minutes after bmminer starts to return to hashing.

So, I thought it would be easy just to kill the monitorcg script, then kill bmminer and single-board-test. Easy enough, but then monitorcg restarts. It is established as a respawn task at system init. So, whenever it dies the OS restarts it.

However, the OS does not restart monitoreg when the system is in init 1 (single user mode). So, the answer is:

init 1

killall -9 bmminer

killall -9 single-board-test

Then when you want to bring it back to mining status:

init 5

monitoreg takes over from there...

So, we should be able to bring systems down to just the Linux board and fans. i will test this again and make sure it works.

Testing

Hmm, looks like all you really have to do is do init 1 and it brings down moniteg, bmminer, and single-board-test

Yep, confirmed: from root init 1 shuts down the mining and init 5 restarts it.

Cheers, Ray

Raymond E. Cline Jr., PhD Chief Mining Officer

From: Jon Cohen <jon.cohen@lancium.com>

To: Michael McNamara <michael.mcnamara@lancium.com>

Subject: Re: Other Thomas Investment **Date:** Thu, 11 Oct 2018 21:39:13 -0500

Importance: Normal

Attachments: dashboard content.pptx

Thats just from Eric. He wants some power monitoring stuff. We should call that guy on Sherbino tomorrow to get some market color

here are some ideas for dashboard stuff. Just needs to be put into charts / tables

On Thu, Oct 11, 2018 at 10:25 PM Michael McNamara < michael.mcnamara@lancium.com > wrote:

Where did this come from???

On Thu, Oct 11, 2018 at 7:20 PM Jon Cohen < jon.cohen@lancium.com > wrote:

We still need to get a budget out of them.

----- Forwarded message -----

From: Eric Kutscha < eric.kutscha@lancium.com >

Date: Thu, Oct 11, 2018 at 6:35 PM Subject: Other Thomas Investment

To: Jon Cohen < jon.cohen@lancium.com >, Rachel Arndt < rachel.arndt@lancium.com >

Cc: David Henson < david.henson@lancium.com>

We need to purchase and install stationary and portable power monitoring equipment.

Please reserve \$ 50 K

Thanks, Eric

--

Eric Kutscha Lancium LLC

Mobile 262-385-4428

--

(917) 833-2720

Case: 23-1922 Page: 58 Document: 39-7 Filed: 01/02/2024

Alert Status (Red Green) **Emergency Off Button**

12.18 MW

70%

120.18

Monthly Statistics (charts) Hash rate % of Max Power Availability Miner On-line %

1.9 PH

65%

BTC BTC Coin Price

S7 Breakeven Price **Network Hashrate**

S9 Breakeven Price

Avalon Breakeven

Operating within test parameters Offline / Defective xxx / xxx (x%) Miner Status

Bearbox v Lancium Trial Exhibit TX223 LANCIUM00018261

ERCOT Operating Reserves 4CP Alert Status NA LMP (timestamp) **Forecast Load**

+5, +10, +15, etc

Weather Conditions (nearest weather station) Wind Direction **Temperature** Wind Speed Humidity

Above B/E Threshold xxx / xxx (x%)

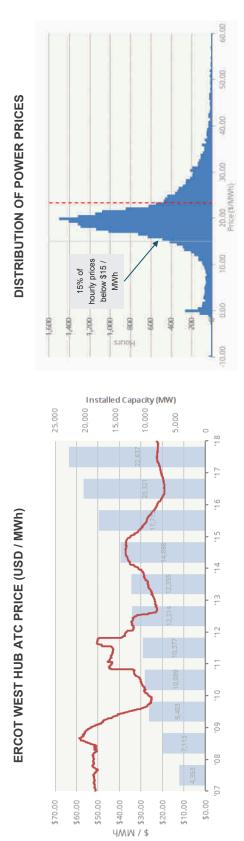
CONFIDENTIAL - ATTORNEY'S EYES ONLY

% LANCIUM

16

The Opportunity

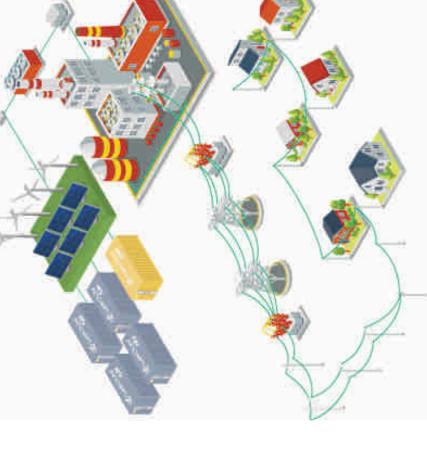
WIND: LOW AND FALLING POWER PRICES



From 2015 to 2017, ~15% of hourly prices in ERCOT West were < \$15 / MWh; 2% were negative

Lancium allows generators to mitigate low-priced hours, while preserving exposure to high market prices during periods of scarcity LANCIUM00020049

THE LANCIUM FLEET mobile units deployed Flexible, modular, throughout grid



⊗ LANCIUM

optimize Core/Flex deployment dynamically Lancium will constantly

grow/shrink as needed

Fleet can move and

CONFIDENTIAL - ATTORNEY'S EYES ONLY

LANCIUM00020054

From: Raymond Cline < recline@lancium.com>

To: Tim Carter <tim.carter@mp2energy.com>

Cc: "ian.rock@lancium.com" <ian.rock@lancium.com>, "thomas.salvatore@lancium.com"

<thomas.salvatore@lancium.com>, "vitor.henrique@lancium.com"
<vitor.henrique@lancium.com>, MP2 Asset Operations Desk

<operations@mp2energy.com>

Subject: Re: Lancium (ADK_LD1) LR **Date:** Wed, 28 Aug 2019 14:02:42 -0500

Inline-Images: image001.jpg; image002.png

Tim,

We are adjusting our economic curtailment plans to assure that we consume the obligated load we have been awarded. If we go below that level we will coordinate with the operations desk. We understand that we cannot received an award for power that could be curtailed, if we are not using the power.

I am sure that we will have more discussions as we move forward. All good clarifications so far.

Cheers, Ray

Raymond E. Cline Jr., PhD Chief Computing Officer

On Tue, Aug 27, 2019 at 3:16 PM Tim Carter < tim.carter@mp2energy.com > wrote:

Ray,

Following up on our call, any time you need to communicate with our asset desk, you can use the operations@mp2energy.com address. I would suggest using this if:

- 1. You have any abnormal operations issues (maintenance, for example),
- 2. You are looking for any information regarding grid conditions and/or events, and
- 3. If you have any plans of shutting down for economic purposes. What I would suggest is responding to Jacob's daily email regarding the awarded volumes with any intentions that you may have whether known operational issues, 4CP shut downs and any likely real time energy strike prices. As I mentioned, participation in Load Resources is deemed a committed obligation once awarded in the day ahead market, but our team will do their best to accommodate your desired load flexibility. I DO NEED TO MAKE A CORRECTION to what I said on the call; any time your load does not meet it's obligation, the day ahead awarded value will show the impact in a reduced payment in your settlement statements. The value of the reduction will be what we covered on the call the volumes multiplied by the clearing price. This is done on a 15 minute basis, however. So the hourly value we calculated on the call would be divided by 4 to give you the 15 minute impact.

Give me a call if there is anything that doesn't make sense here.

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com



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From: Raymond Cline < recline@lancium.com Sent: Tuesday, August 27, 2019 2:08 PM
To: Tim Carter < tim.carter@mp2energy.com>

Cc: <u>ian.rock@lancium.com</u>; <u>thomas.salvatore@lancium.com</u>; <u>vitor.henrique@lancium.com</u>

Subject: Re: Lancium (ADK LD1) LR

Tim,

I sent a conference call invite for 2pm. Did you get it?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Tue, Aug 27, 2019 at 9:08 AM Tim Carter < tim.carter@mp2energy.com> wrote:

Absolutely. I'm available after 2 CDT pm today and available all morning tomorrow. Tell me what time works best for you and your team and I'll send a calendar invite with a conference number.

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

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From: Raymond Cline < recline@lancium.com > Sent: Tuesday, August 27, 2019 7:54 AM
To: Tim Carter < recline.carter@mp2energy.com >

Cc: <u>ian.rock@lancium.com</u>; <u>thomas.salvatore@lancium.com</u>; <u>vitor.henrique@lancium.com</u>

Subject: Re: Lancium (ADK_LD1) LR

Tim,

We are just trying to learn how best to take advantage of your service. Is it possible to set up a call so that we can understand the spreadsheet we are receiving and how best to use the information?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Mon, Aug 26, 2019 at 2:16 PM Tim Carter < tim.carter@mp2energy.com > wrote:

Hi Ray, my apologies for not responding sooner; I meant to respond Thursday that we were working up something for you guys but got tied up; and I was out of the office on Friday. However, it sounds like Jacob has already sent you what we worked up for you; let me know if you have any further

questions/concerns. I'll do my best to be more timely! (you can always call my cell phone with any problems).

Tim Carter CEM, CDSM, CEP

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From: Raymond Cline < recline@lancium.com > Sent: Thursday, August 22, 2019 9:04 AM

To: MP2 Asset Operations Desk < <u>operations@mp2energy.com</u>>

Cc: <u>ian.rock@lancium.com</u>; <u>thomas.salvatore@lancium.com</u>; <u>vitor.henrique@lancium.com</u>; MP2 Demand Response List <<u>dr@mp2energy.com</u>>; MP2 Settlements <<u>settlements@mp2energy.com</u>>

Subject: Re: Lancium (ADK_LD1) LR

Thank you for the notice, it is great to be on board. For our own internal power management we need to know the value of our demand response adjustment as it changes. Is there a data feed or website where we can access the current value of the adjustment from demand response?

Cheers,

Ray

Raymond E. Cline Jr., PhD

Chief Computing Officer

On Thu, Aug 22, 2019 at 6:58 AM MP2 Asset Operations Desk < operations@mp2energy.com> wrote:

Good morning Lancium team,

You are all set up and have been offered into the LR program starting tomorrow (8/23/19). Listed below is our operations desk contact (24/7/365) in case you have any questions and/or need to opt out of the LR temporarily. Also, listed below are the notifications that you will receive via e-mail, phone call & text for an actual LR event and/or testing. Please let us know if you have any questions. Thanks!

operations@mp2energy.com

888-896-8629 - APX (24/7/365)

Participant	First Name	Last Name	Email	Phone Number	Mobile Number	Text Msg Number
MP2-Lancium	lan	Rock	ian.rock@lancium.com	833-256-2486	713-839-5246	713-839-5246
MP2-Lancium	Raymond	Cline	recline@lancium.com	833-526-2486	713-560-6855	713-560-6855
MP2-Lancium	Thomas	Salvatore	thomas.salvatore@lancium.com	833-526-2486	541-918-1442	541-918-1442
MP2-Lancium	Vitor	Henrique	vitor.henrique@lancium.com		832-815-9054	832-815-9054

LR Phone Curtailment

This is an EMERGENCY notification from MP2 Energy. Please listen carefully as mandatory action is required. At this time, ERCOT is requesting emergency mandatory LAAR curtailments. This LAAR curtailment is to be implemented immediately, and load should remain off until you receive the restore notification. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

LR Phone Recall

This is an EMERGENCY notification from MP2 Energy. Please listen carefully as mandatory action is required. At this time, ERCOT is restoring emergency mandatory LAAR. This LAAR restoration is effective immediately; please restore according to protocol. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

LR SMS Curtailment

MP2 Energy Alert: ERCOT is requesting mandatory LAAR curtailment at this time. Don't restore load until directed by MP2 Energy. Reply STOP to cancel SMS notifications.

LR SMS Recall

MP2 Energy Alert: ERCOT is restoring LAAR curtailment at this time. Restore load according to protocol. Reply STOP to cancel SMS notifications.

LR Email Curtailment

This is an EMERGENCY notification from MP2 Energy. Please read carefully as mandatory action is required. At this time, ERCOT is requesting emergency mandatory LAAR curtailments. This LAAR curtailment is to be implemented immediately, and load should remain off until you receive the reinstatement notification. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640. Thank you.

LR Email Recall

This is an EMERGENCY notification from MP2 Energy. Please read carefully as mandatory action is required. At this time, ERCOT is restoring emergency mandatory LAAR. This LAAR restoration is effective immediately; please restore according to protocol. Again this is an emergency event notification from MP2 Energy. Please take all steps necessary to respond to this mandatory event. For questions, please call 888-896-8640.

Thanks,

Jacob Magin

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1059 | C 832.702.5108 | www.MP2Energy.com



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Document: 39-7 Page: 67 Filed: 01/02/2024

Case: 23-1922

From: Sarah Ho <sarah.ho@readyengineering.com>

To: Eric Kutscha <eric.kutscha@lancium.com>, "ian.rock@lancium.com" <ian.rock@lancium.com>, Raymond Cline <recline@lancium.com>

CC: Jordie Holton <jordie.holton@readyengineering.com>, Brian Carpenter

<bri>drian.carpenter@readyengineering.com>, Tyler Bennett

<tyler.bennett@readyengineering.com>

Subject: Updated Control Narrative

Date: Thu, 2 May 2019 15:54:19 +0000

Attachments: Lancium Control Narrative - Draft 2019-05-01.pdf

Inline-Images: image001.png; image002.png; image003.png

Hi everyone,

As per our discussions yesterday, please find attached the updated control narrative for your further review.

Kind regards, Sarah

Sarah Ho, P.Eng.

Sarah Ho, P.Eng. | Manager, Buildings & Development

- t. 780.960.6663 x141
- **c.** 780.885.5546
- Spruce Grove, AB

DRAFT

5.3 Load Management

Lancium Data Centers are located in close proximity to a power provider and the contractual terms for purchase and utilization of power require Lancium to manage power utilization (load) of the data center. This is called "ramping of power consumption" and typically follows the daily/hourly plan coordinated with the power provider.

5.3.1 Load Management – Lancium

Lancium can manage load utilization at a distributed computing site using the following methods:

A. Soft Load Control (Software Instruction)

- a. The Lancium NOC may use software instructions to adjust computational activity for each computing rack across the site thereby managing total electrical load utilization to desired or permissible levels.
- b. Lancium's implementation of Soft Load Control allows computing racks to be adjusted down to an idle state to minimize power utilization while leaving computing equipment in an online state and receptive to later instruction.

B. Hard Load Control (Module Supply Main Breaker Action)

- a. The Lancium NOC, or a local Lancium Operator/Technician, can open/close the module supply main breakers. Each module has two supply main breakers that can be controlled individually.
- b. Opening a main breaker causes de-energization of associated computing racks and exhaust fans, decreasing overall site load utilization. Closing a main breaker allows for energization of associated computing racks and exhaust fans, increasing overall site load utilization.
 - Note that Site UPS power is provided through an auxiliary circuit breaker to critical module-level devices (e.g. network switches, I/O Aggregator etc.) even when the module supply main breakers are open.
 - The computing load is not powered by the Site UPS.

Soft Load Control is preferred over Hard Load Control for load reduction. Hard Load Control is used as a backup, to trigger opening of breakers when Soft Load Control mechanisms fail to (or cannot) keep load utilization below defined limits (within defined time and magnitude thresholds).

5.3.2 Load Management Coordination – Power Provider

The power provider can direct or coordinate electrical load utilization at the Lancium site using the following methods:

A. Site Supply Main Breaker

- a. The power provider has the capability to control the site supply main breaker and quickly shed all load utilized by the site.
- b. This option is only to be used without warning when the power provider has an emergency requiring fast load shed to stabilize or protect generation assets.

B. Person to Person Communication (telephone, email etc.)

a. The power provider can communicate directly with personnel at the Lancium NOC who in turn can implement Soft Load Control mechanisms (see section 5.3.2) to manage

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Page 16 of 46

DRAFT

processing activity levels for computing racks across the Lancium site in order to adjust electrical load utilization to required levels. This communication may take the form of a coordinated daily/hourly plan.

C. Communicated Control Signals

 a. The power provider can update control system signals which are passed via secure communications link, received by the Lancium Brain and evaluated to trigger automated actions to manage site load (e.g. Soft Load Control and Hard Load Control, see section 5.3.1).

5.3.3 Automated Load Management – Communications Link

To Be Determined:

What will be the physical infrastructure and communications protocol used to communicate the Load Limit Setpoint to Lancium's system for managing computational activity for the computing racks?

5.3.4 Automated Load Management – Communicated Signals

This section describes one potential implementation of coordinated <u>and automated</u> load management. The actual architecture and implementation of the communication link and communicated signals is to be coordinated with the relevant power provider for each Lancium data center.

To support automated and coordinated load management scenarios the power provider provides to the power consuming site (Lancium), via secure communications link, three (3) primary control signals¹. These signals are described in Table 4-1 below.

Table 4-1: Signals from Power Provider to Lancium Site

Name	Description	
Load Limit Setpoint	This integer value, determined by the power provider, represents the maximum allowable electrical load, that may be utilized by the site.	
Load Limit Compliance Period	This integer value, determined by the power provider, represents the allowable time duration, after the time when Load Limit Setpoint has been reduced, for the site to reduce load utilization below the new Load Limit Setpoint value.	
	>= 0: Tolerance thresholds enabled < 0: Tolerance thresholds disabled	
Metered Load	Real-time site load utilization as metered by the power provider.	

¹ Other signals such as watchdog bits may also be used to validate the integrity of the communications link.

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Page 17 of 46

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5.3.5 Automated Load Management – Automated Response

The Lancium Brain monitors the value of the Load Limit Setpoint and the Load Limit Compliance Period as communicated from the power provider.

The Load Limit Setpoint value is evaluated and used in determination and initiation of Soft Load Control mechanisms that are used to maintain load at or below the Load Limit Setpoint by managing computational activity (and power usage) for module computing racks in order to manage total power utilization across the site.

The Lancium Brain maintains an Internal Load Limit variable that is used to determine when and if Hard Load Control action is to be initiated. Hard Load Control action is triggered only when site load is greater than the Internal Load Limit A) by more than a configurable threshold value (e.g. 2 MW), or B) for longer than the configurable threshold duration (e.g. 2 minutes). This allows site load to momentarily spike above the load limit (within reasonable limits), without triggering breaker action.

In general (steady state), the Internal Load Limit value is set equal to the communicated Load Limit Setpoint value. However, when the communicated Load Limit Setpoint value is reduced, and the communicated Load Limit Compliance Period value is greater than zero, then the Internal Load limit is maintained at its previous value until the compliance period has elapsed (from the time when the load limit was reduced), after that it is again set equal to the communicated Load Limit Setpoint value.

Load Limit Compliance Period >= 0:

When the site load is greater than the Internal Load Limit value and the compliance period is zero or greater (positive) then Hard Load Control action is triggered only when site load is greater than the Internal Load Limit value and the extends beyond the duration or magnitude thresholds described above.

Load Limit Compliance Period < 0:</p>

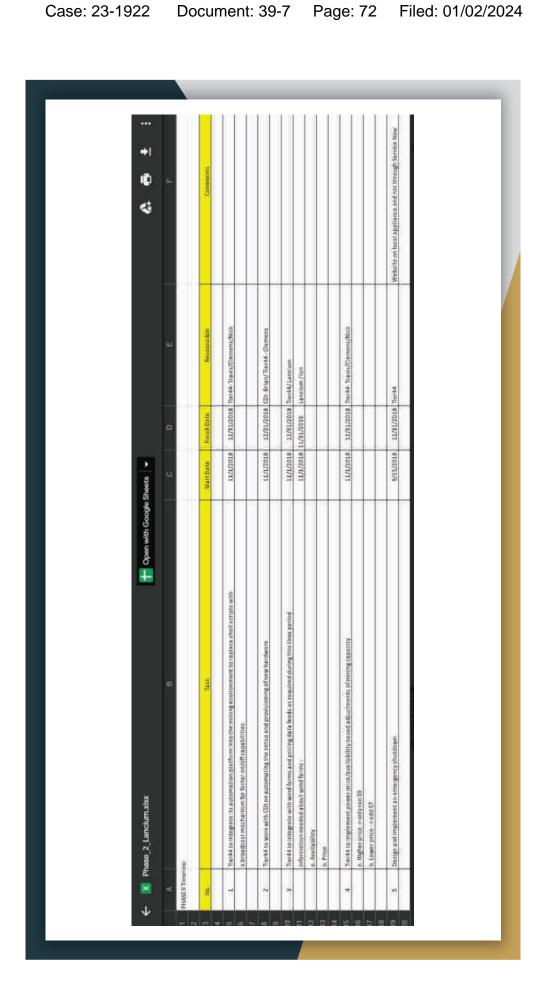
A negative Load Limit Compliance period can be used by the power provider when a load reduction is to occur as fast as possible (e.g. islanding of generation assets). When the site load is greater than the Internal Load Limit value and the compliance period is less than zero (negative), then Hard Load Control action is triggered immediately when site load is detected as greater than the Internal Load Limit value.

5.3.5.1 Automated Response – Module Supply Main Breakers

When the Lancium Brain determines that Hard Load Control actions are required it evaluates the total site load against its internal Load Limit Setpoint and controls the module supply main breakers per the following description:

Power meter readings from each module are used to determine which module main breakers are
to be opened such that overall site load will be reduced below the load limit. Control signals are
passed from the Lancium Brain to the specified modules, causing specified breakers to open.

The Lancium Brain may be configured to implement prioritization of certain modules over others.



From: "Sims, Trey" <tsims@tas.com>

To: ian.rock <ian.rock@lancium.com>, "David Henson (david.henson@lancium.com)"

<david.henson@lancium.com>
CC: "Sims, Trey" <tsims@tas.com>

Subject: RE: 1803343 Lancium Data Box - Design Basis

Date: Fri, 11 May 2018 16:28:21 +0000

Attachments: Lancium_Data_Box_-_Design_Basis_20180511_R3.2.docx; Lancium_Data_Box_-

Schedule 05.10.18.pdf

David / Ian – good meetings yesterday. It felt like that the meeting todays would be the critical discussions - TAS wishes you the best.

Leaning forward, TAS would like to invite ourselves to your shop mid-next week. The objective of the meeting is to finalize all outstanding scope details on the 4 x 1.6MW Data Box solution. This would allow TAS to provide a firm proposal to Lancium by 5/21 and keep the development units on schedule to deliver by 7/31. Would next Wed afternoon or Thursday morning work?

See attached current project design guide. I pulled the current Lancium questions from design guide and listed them below. I have also attached a high-level schedule that we are currently working towards. This should match the same timeline and production capacity that we have discussed this week.

Lancium Questions

- 1. Confirm scope split
- 2. Miner shelves supplied by Lancium or TAS?
- 3. Miner SCADA footprint, conduit and cable requirements
- 4. Miner relative humidity envelope
- 5. Plan for electrical distribution from Distribution Panel Boards all the way to the Miner Power Supply.
- 6. Confirm fire system media CO2 vs misting system.

Thank you,

Trey Sims tsims@tas.com

cell 281.229.4469

From: ian.rock <ian.rock@lancium.com> Sent: Friday, May 11, 2018 6:57 AM To: Sims, Trey <tsims@tas.com>

Subject: Re: 1803343 Lancium Data Box - Design Basis

Trey, i am generally good.

We can discuss the stairs and have have to consider the cable management depending on the solution.

lan

Ian J Rock

Operations Manager Lancium

Bearbox v Lancium Trial Exhibit **TX371**

Thanks very much, Ellen.

Jesus.

Very nice to e-meet. Maybe we could hop on a call tomorrow to discuss?

Sent from my iPhone

On Nov 16, 2017, at 3:55 PM, Ellen Wolfe <ewolfe@resero.com> wrote:

Jesus and Michael.

I'd like to take the liberty of introducing you both.

Jesus: Michael is with an up and coming firm, Lancium. He and his partners are developing deployable/dispatchable load products that both take advantage of negative prices and can be demand response resources and curtail under negative pricing. Carrie and I did a CAISO energy market seminar for them a week or so back. They are investigating lots of options and your name came up. You may be useful to them with connections at the capital, and also Carrie said you've been doing a lot of work in Hawaii and they would like to explore that market.

Michael: Jesus has a small consulting/advocacy firm, and we partner with one another regularly. He's been in the industry but also is very connected in the legislative/political circles.

Might you both exchange info and consider whether you might want to have a phone call to see if Jesus' talents may be of benefit to you?

Thanks! Ellen

Ellen Wolfe Resero 916 791-4533 ewolfe@resero.com www.resero.com

<LANCIUM TECHNOLOGIES INC AND ADVANTAGE GOVERNMENT CONSULTING LLC NDA 11 28 2017.pdf>

From: Michael McNamara <michael.mcnamara@lancium.com>

To: David Henson david.henson@lancium.com, Prashant Gupta

prashant.gupta@lancium.com>, Steve Pattyn <steve.pattyn@lancium.com>

Subject: Deck

Date: Wed, 27 Dec 2017 17:10:33 -0500 **Attachments:** Lancium_Investor_Deck_Q118_v1.pptx

Just playing with the deck.

See new place holders and content that I am thinking about. Feedback welcome

--

(917) 833-2720

Bearbox v Lancium Trial Exhibit **TX373**



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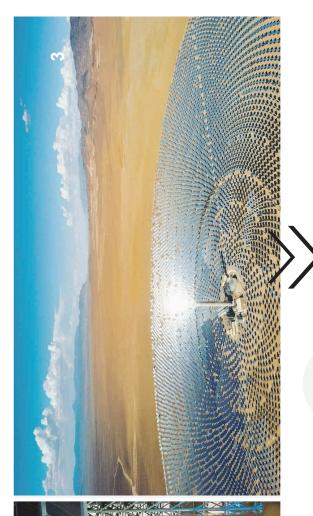
OPPORTUNITY

EXECUTIVE SUMMARY

Lancium is solving two of today's most prominent problems in emerging technology

⊗ LANCIUM

Case: 23-1922 Document: 39-7 Page: 78 Filed: 01/02/2024



Excess and wasted renewable energy

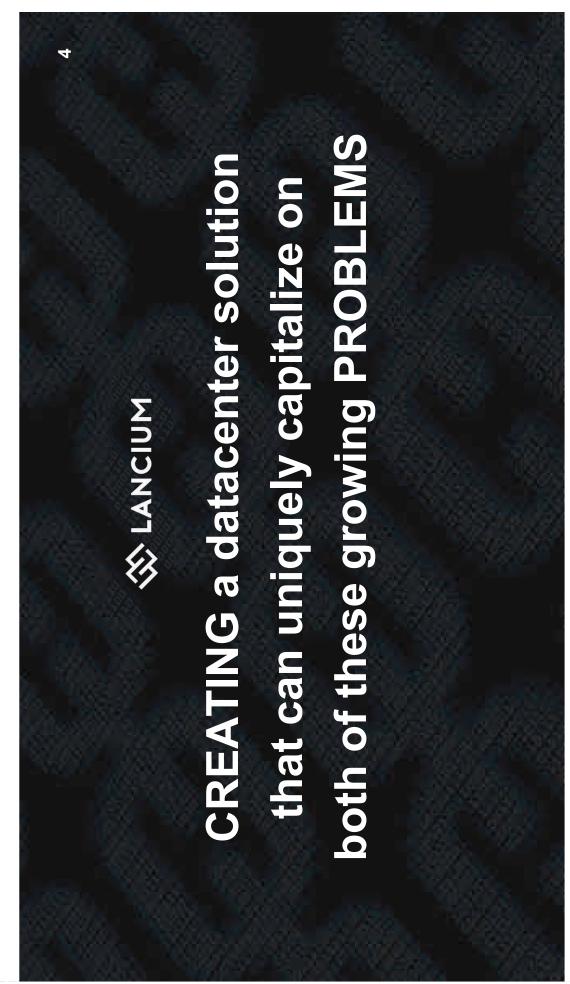
Exploding demand for electricity from cryptocurrency mining

Proof-of-Work blockchain currencies require a tremendous and growing amount of energy

petrochemical energy is causing grid instability and Exponential renewable energy growth and wasted

environmental destruction

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enterprise software and corporate finance

LANCIUM00025170

5

COMMERCIAL PLAN EXECUTIVE SUMMARY



Lancium is currently raising US\$10mm+ to fund commercial roll out



Lancium has assembled an executive team boxes by Q2 2018 with pipeline of 100MW+ Ability to place up to []MW of "high spec" cryptocurrencies, industrial/power, with extensive experience in





Case: 23-1922

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One Bitcoin Transaction Now Uses as Much Energy as Your House in a Week

THE RIDICULOUS AMOUNT OF ENERGY IT TAKES TO RUN BITCOIN

Click to Read Article

SEPTEMBER 2017

NOVEMBER
2017
Click to Read Article



Bitcoins Energy Consumption An Unsustainable Protocol That Must Evolve?

2016 <u>Click to Read Article</u>

NOVEMBER

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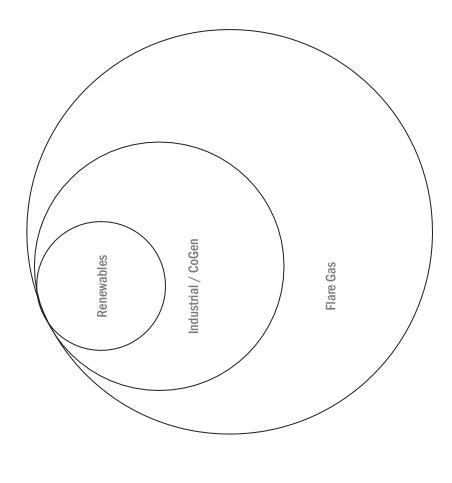
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Case: 23-1922 Document: 39-7

Page: 82

Filed: 01/02/2024

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Solution: Capturing Wasted Energy

Oceans of Wasted Power

Renewable Power

Industrial / CoGen

Flare Gas / Vented Methane

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SPANCIUM

The Opportunity

Renewable Power Glut

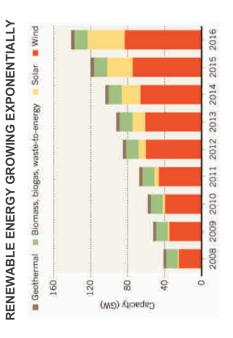
Renewable energy growth is exploding and growing faster than anticipated

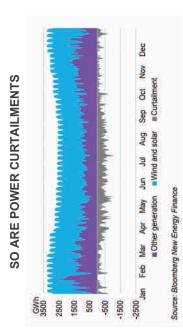
This growth is causing serious issues including:

- Negative power prices
- Volatility attributed to curtailment, congestion and load response requirements

This power is effectively stranded and actually has a strong negative impact on the availability and stability of the power grid

There is limited industrial user for this power due to its volatility and scale, its distributed nature and forecast/technology development challenges

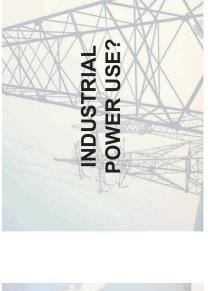


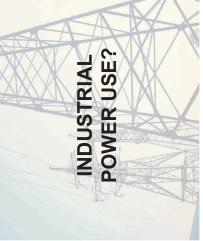


Case: 23-1922

RENEWABLE: POSSIBLE SOLUTIONS

SPANCIUM







Absorb and Drop Very Large Industrial Users Cannot

Loads Quickly



Earliest Scale Deployment

5+ Years Out



Environmentaly Desstructive

Politically Impossible

Economically Foolish





Solution: Capturing Wasted Energy

Industrial and CoGen

- 6,000MW+ of installed CoGen in the US alone
- Excess power is largely ignored by producers and sometimes sold into very weak pools
- Potential to sit "behind the fence"

Solution: Capturing Wasted Energy

Flare Gas and Vented Methane

- Total flare gas in the US of []mcf/d
- Environmentally destructive and wasteful
- Shale wells drilled for liquids alone with nat gas as a wasted by product

Case: 23-1922

POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS

UTILITIES



Consumer prices are rising despite low power prices due to volatility and inefficiency.

Lancium will sell, install and service a fleet of units to provide price stability and cost savings.



POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS





Power grids are suffering from selective excessive power & heavy ramping needs causing instability and volatility.

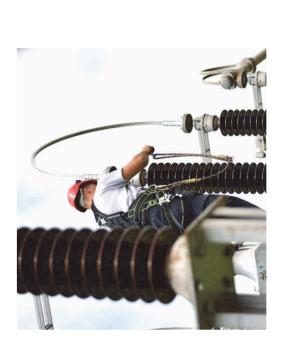
units to provide price stability and cost savings. Lancium will sell, install and service a fleet of



POTENTIAL CUSTOMERS

※LANCIUM

POTENTIAL REVENUE STREAMS



INDEPENDENT POWER **PRODUCERS**

Value Proposition:

Power producers are forced to curtail production or sell power at negative prices at certain times.

Lancium will provide power producers a "put" and receive free or nearly free power in exchange.

 $\overline{\zeta}$

POTENTIAL CUSTOMERS

POTENTIAL REVENUE STREAMS

INDUSTRIAL POWER

Value Proposition:

Capture power that would otherwise be sold into an adverse market

Lancium will located units (behind the fence) to []

POTENTIAL REVENUE STREAMS

POTENTIAL CUSTOMERS

E&P COMPANIES

Value Proposition:

Lancium will provide a methane capture system that will prevent flaring / venting and use natural gas to power []

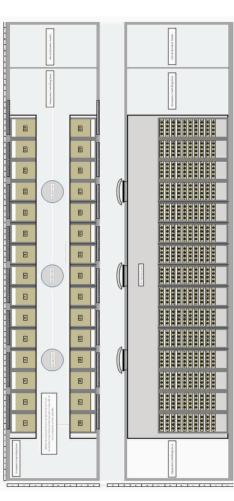
SPANCIUM

SPANCIUM

The Opportunity

THE LANCIUM FLEX SOLUTION

- Small footprint units that can absorb or drop load nearly instantly
- Internally designed with multiple patent pending elements
- Fully mobile, modular and stackable to provide nearly instant solutions for any grid stability issues



"Low Spec" Box

"High Spec" Box

The Lancium Fleet

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The Lancium Fleet Virtuous Cycle

Lowest Cost / Largest Opportunity Set

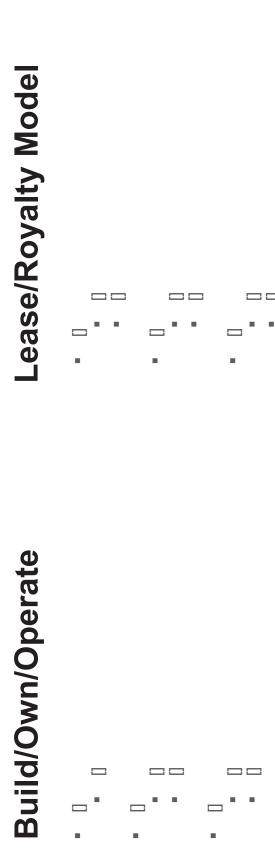
Allows Lancium to underwrite the newest/best fleet

Cost position strengthened by growing and most flexible fleet

Old Gen Fleet moved to lower cost / less utilized locations

The Lancium Fleet

Business Model Considerations



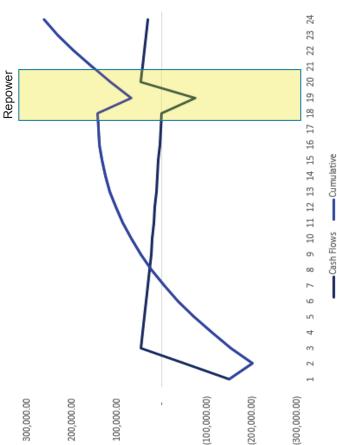
ECONOMIC CONSIDERATIONS

THE LANCIUM FLEX SOLUTION

MONTHLY & CUMULATIVE UNIT CASH FLOWS

以 LANCIUM

- Initial units will use older generation rigs (older gen rigs are more power consumptive)
- Unit cost of <\$200k with illustrative IRR's of 50%+ (at \$7,500/BTC and \$0.025/KwH)
- If BTC prices drop drastically, hardware replaced to capitalize on rig price drop
- May be deployed "behind the meter" without incurring **Fransmission and Distribution Charges**
- Units will need to be "repowered" with new mining equipment every 18 months
- Ample opportunity to optimize by changing fleet configurations



Appx11788

Case: 23-1922

TIMELINE

⊗ LANCIUM

Deploy 1st units at IPPs

(solar & wind)

Join CA Independent

System Operator as

"participating load"

Key Strategic Hires

Q2/Q3 2018

Document: 39-7

Expand geographical

Page: 97

LOI or MOU w/ Major

footprint (Europe)

Utilities.

Raise Institutional Capital & Enter into Lending

Filed: 01/02/2024

Relationships.





<<

File First Patents

Build First Units & Optimize Design

Q1 2018

Raise \$1-2mm

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CEO & CO-FOUNDER

MICHAEL MCNAMARA, CFA

Michael is a private investor and is currently on the board or serving as advisor to a number of start-up firms in the natural resources. Over several years, ROR partnered with leading Private Equity firms to successfully restructure a consumer, energy and technology space. Previously, Michael co-founded ROR Capital, a merchant bank focused on number of multi-billion dollar natural resource companies.

from Georgetown University with degrees in Accounting and Finance and is a member of the New York Society of Michael spent 10 years on Wall Street at several multi-billion hedge funds focused on natural resource and event-driven PriceWaterhouseCoopers with roles in the consulting and accounting divisions. Michael graduated Magna Cum Laude investments ultimately part of teams overseeing \$1bn+ of investments in the space. Michael began his career Security Analysts and the CFA Institute.

⊗ LANCIUM

CO-FOUNDER

PRASHANT GUPTA, CFA, CPA (INACTIVE)

gaming. Prashant oversaw all aspects of the family office's investment financing, structuring, accounting, audit, taxation and Prashant is an active private investor across multiple industries and geographies. Mr. Gupta most recently served as the Chief Financial Officer of Forbes 400 family office with significant portfolio of investments in hedge funds, real estate and estate

planning.

Prior to that, Prashant was a Senior Manager with Ernst & Young LLP, where he spent six years specializing in hedge funds, University. Prashant has been awarded an honorary Doctorate in Humane Letters by Muskingum University recognizing his mutual funds and broker-dealers, two of which were spent in an offshore jurisdiction. Prashant received an M.S. degree in Accounting from the University of Virginia and a B.A., summa cum laude, in Economics and Accounting from Muskingum distinguished career and achievements.

CHIEF FINANCIAL OFFICER

SR.FINANCIAL EXECUTIVE (PENDING)

corporate finance, and strategy consulting. Twice awarded Institutional Investor's best of the buy-side and recognized by peers and executives for insight and Senior capital markets professional with more than 18 years of progressive experience including equity research and investing, investor relations advisory, candor. Proven success as a buyside investor, corporate advisor, and business developer with an extensive network of investors, research analysts, nvestment bankers, and corporate executives. Seasoned in counseling board of directors and C-level executives.

Currently Managing Director at a global consulting firm in the Corporate Finance and Strategic Communications segments where he has advised numerous Fortune 500 companies around key strategic initiatives including spin outs, acquisitions, capital allocation policies and IPO's. B.A in finance from North Park University in Chicago, and earned Master's in business and administration from the Johnson School at Cornell University as well as the Smith School of Business at Queens University

SY LANCIUM

CHIEF TECHNICAL OFFICER

DR. DAVID J. HENSON Ph.D., BCHE

Fechnology for Siemens Oil & Gas Division with responsibility for developing and deploying Siemens based businesses & Siemens Oil & Gas provide Dr. Henson recently served as the Chief Executive Officer of Siemens Conceptual Engineering Services. He served as the Director of Emerging ield-proven compressors, gas and steam turbines, electric drives, motors and associated control and data systems. Siemens O&G division has approximately 16,000 employees worldwide.

international companies in both client and contractor roles. He has been an Executive Director at LWP Technologies Limited since January 2016.. He has Dr. Henson has more than 15 years experience in process engineering, project management, business development and commercial experience with been the Project Director for Dominions Cove Point LNG while at IHI E&C Dr. Henson holds a PhD in chemical engineering.

CHIEF MINING OFFICER

DR. RAYMOND CLINE PLD

Dr. Cline is currently responsible for Lancium's cryptocurrency strategy and initiatives. Dr. Cline serves as a member of the IEEE Blockchain Initiative Steering Committee and is President/CEO of RWI Mining, LLC, a Blockchain mining firm. He has participated in the development of a broad range of technologies, including high performance computing and communications technology, distance computing, manufacturing, and medical industries, with a specialization in recent years toward digital energy solutions (the application of dynamic, network centric operational collaborative computing, parallel processing, distributed computing, distributed object computing, distributed multimedia, networking protocols, and Asynchronous Transfer Mode (ATM) networking. He has applied these technologies to the development of systems to address needs in the petroleum, national security models in the energy space)

Fellow of the Borders, Trade, and Immigration Institute, a DHS Center of Excellence; and is a technical advisor to Advanced Green Computing Machines. Dr. Cline had previously led the Department of Energy funded Smart Grid Education and Training Coalition; was a member of the Executive Committee of TMAC, the Texas Dr. Cline serves on the board of HARC, a research hub providing independent analysis on energy, air, and water issues to people seeking scientific answers; is a affiliate of the Manufacturing Extension Partnership (MEP) program of National Institute of Standards and Technology (NIST); served on the board of the Global Energy Safety Institute; and served as the Chairperson of the Cluster Development Committee of the Greater Houston Partnership Energy Collaborative.

Dr. Cline eamed a PhD in Chemical Physics from the University of Illinois and a BS in Chemistry from Kent State University

STRATEGIC ADVISOR

BRUCE RISING

Bruce Rising is formerly Strategic Business Manager within Siemens Power Systems Sales. Previously, Bruce was manager of Marketing Intelligence in gas turbine industry on the Natural Gas Council Committee on Gas Interchangeability related to imported LNG, and the effort to delist gas turbines from Gas Turbine Association in Washington DC as the chairman of the Environmental Affairs Committee for six years. During that time he represented the Siemens' Global Strategy group. Before joining Global Strategy, he was the manager of Regulatory Affairs for Siemens Energy where he assisted the the MACT ruling. He was a key author in a study requested by the Secretary of Energy to review the impact of unconventional energy supplies on the power sector

Environmental R&D at Battelle Columbus Labs. He earned a BS in Chemical Physics and an MS in Fuel Science from Penn State. He is a member of Bruce's experience encompasses 30+ years in combustion, environmental control technology, and gas turbine technology issues. Prior to joining Siemens he was the manager of Emissions and Control Technology for RollsRoyce Allison in Indianapolis, and research scientist in Energy and the American Society of Mechanical Engineers, the Association for the Advancement of Science, the American Chemical Society and National Association of Corrosion Engineers. He holds seven patents related to energy production, emissions controls and engine diagnostics.

STRATEGIC ADVISOR & INVESTOR

STEWART HAIR

financial management while driving the exploitation of new technologies to improve corporate efficiency and profitability. In Canada Stewart is a retired IT entrepreneur helping to finance and guide start-up companies and development projects in value creation for their stakeholders. Communications industry, Stewart gained extensive business experience in the manufacturing industry, overseeing day-to-day Canadian Society of Management Accounts and later as part of his role in the Satellite Communications Stewart received Top where Stewart grew up after his parents emigrated from Scotland he achieved a professional accounting designation from the Stewart has 3 years of Crypto Currency mining experience guiding the build-out of over 6 megawatts infrastructure at multiple Infrastructure and Communications Services industry executive with 20 years of leadership and operational experience at HP, Secret clearance from the Canadian Federal Security authority. Stewart currently living in Texas and enjoying success as an EDS, MCI Systemhouse, Telesat and most recently at M&A Technology as VP of Operations. Prior to joining the IT and locations and installing 1,000s of miners producing greater than \$20 million in value for the stakeholders.

From: Jay Young < Jyoung@strategicpowersolutions.net>

To: Jon Cohen <jon.cohen@lancium.com>, Michael McNamara

<michael.mcnamara@lancium.com>

CC: Todd Wilson < todd.wilson@calpinesolutions.com>

Subject: LR DEMAND RESPONSE PRESENTATION 2019.pptx

Date: Sat, 18 May 2019 14:35:09 +0000

Attachments: LR DEMAND RESPONSE PRESENTATION 2019.pptx

Jon and Michael -

Attached is the information we discussed on Thursday for the DR programs in ERCOT. This covers all of the high level details. We will need to do a site and software assessment to see what is needed for telemetry, communication, etc.

CPower mentioned that the quickest they have enrolled a new participant was 35 days. So if we want to take advantage of historically high summer revenues, we need to get on this next week.

I used to work for CPower and continue to do business with them. They have a great team and are one of the largest QSE's in the nation.

Please let me know if you have any questions.

Thank you,

Jay A. Young President Strategic Power Solutions 214-415-5462

Bearbox v Lancium
Trial Exhibit **TX437**



ERCOT: LOAD RESOURCE(LR)

10

Page: 107

LANCIUM00026310

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Participation: LR Program

Load Resource:

Minimum Size - 100 kW

Participation - Year Round, 24 hours per day

Metering/Direct Load Control (DLC) - 2 second demand data,

Testing—At a minimum, a 30-45 minute test event will be called once per year absent successful event deployment under-frequency relay. Must have Direct Load Control (DLC)

Participation: LR PROGRAM CONT.

Notification - Customers will be notified of an event via email, phone, text and/or electronic signal

(Immediate curtailment via Under Frequency Relay (UFR) Dispatch Types - Verbal Dispatch or UFR Event

Settlements - Customers receive monthly payments within 30 days upon system frequency reaching 59.7 Hz for 20 cycles)

Events - Since 2011 - 14 Total Events 4 Manual/10 UF Events

From: Michael McNamara <michael.mcnamara@lancium.com>

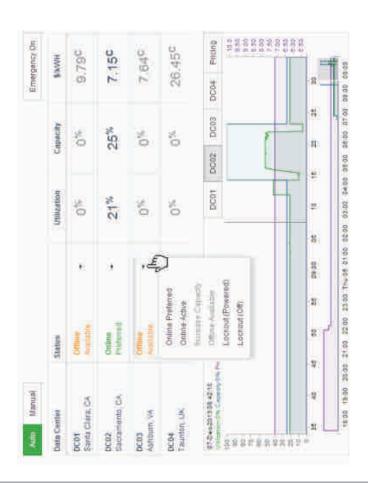
To: Jon Cohen <jon.cohen@lancium.com>

Subject: BAML deck

Date: Thu, 29 Mar 2018 14:52:02 -0400 **Attachments:** Lancium_-_BAML_April_10th.pptx

__

(917) 833-2720





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LANCIUM00027993

Page: 111 Filed: 01/02/2024

From: Tim Carter < tim.carter@mp2energy.com>

To: Michael McNamara <michael.mcnamara@lancium.com>

Cc: Jay Young < Jyoung@strategicpowersolutions.net>, Rachel Arndt

<rachel.arndt@lancium.com>

Subject: Countersigned EMS attached Date: Mon, 15 Jul 2019 14:04:26 -0500

Importance: Normal

Attachments: Countersigned EMS Lancium 071519.pdf

Inline-Images: image001.jpg; image002.png

Please find the attached countersigned energy management services agreement. We are working with Draco to ensure this site can be started in the market as soon as possible.

Tim Carter CEM, CDSM, CEP

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1061 | C 832.684.5645 | www.MP2Energy.com





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EXHIBIT "A"

Transaction Confirmation #1

This Transaction Confirmation confirms the transaction between the Parties agreed to as of the date accepted by MP2 Energy LLC ("MP2") below pursuant to and in accordance with the Energy Management Services Agreement entered into between MP2 and Lancium LLC ("Customer") dated on or about 6/14/2019 (the "Agreement") and constitutes part of and is subject to all of the terms and provisions of such Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Agreement, or to the extent not therein defined terms shall have the respective meanings set forth in the relevant Protocols, Manuals, Rules and/or Regulations governing the demand response opportunity and/or program.

Opportunity: LR Date: Start 9/1/2019 Term: through 9/30/2021

Quantity: Approximately .8 MWs to start with an expectation of growing to 7 MWs

Service Address	ESIID
6006 THOMAS RD HOUSTON, TX 77041	1008901011901056760115

Description: MP2 will offer in to the ERCOT LR market, that amount of capacity that CUSTOMER and MP2 agree reasonably complies with the LR program (the "Quantity"). Customer understands that the Quantity and the value associated therewith may change from time to time.

Economic Settlement: The revenues received relative to this Transaction Confirmation, by MP2 from ERCOT, shall be divided between the Parties upon the following schedule and is dependent on the average hourly MW volumes offered into the LR market for the applicable settlement month:

Less than 5MW: 75% to Customer and 25% to MP2 Between 5MW and 20MW: 83% to Customer and 17% to MP2

Over 20MW: 89% to Customer and 11% to MP2

The revenue sharing breakpoints shall apply to all MWs for the applicable settlement month.

Fees: Customer agrees to pay MP2 a base monthly fee in the amount of \$0 for each month during the Term. Customer authorizes MP2 to deduct the base monthly fee from the revenue accruing to Customer hereunder and MP2 will reflect the deduction on the settlement statement.

Agreed and Accepted.

LANCIUM LLC

By: By: By: By: Dougles

Name: CEO

Title: CEO

Date: July 9th, 2019

Date: 7/10/19

From: "Hunsucker, Brett" <Brett.Hunsucker@ercot.com>
To: Vitor Henrique <vitor.henrique@lancium.com>

Subject: RE: FW: Real-Time LMP

Date: Mon, 22 Apr 2019 15:49:23 -0500

Importance: Normal

Inline-Images: image001.jpg; image004.jpg

Good afternoon, Victor.

I apologize for the delay. Yes, ERCOT data such as LMPs are accessible via an API. For more information, please refer to the EIP External Interfaces Specification v1.20L.

Regards,



Brett Hunsucker

Manager, ERCOT Client Services

Office: 512.248.6556 Cell: 971.263.8843

Brett.Hunsucker@ercot.com

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From: Vitor Henrique [mailto:vitor.henrique@lancium.com]

Sent: Monday, April 22, 2019 2:33 PM

To: info <i@ercot.com>

Cc: Hunsucker, Brett <Brett.Hunsucker@ercot.com>

Subject: Re: FW: Real-Time LMP

***** EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. *****
Hello,

110110,

I haven't received any response on my request yet, could you please follow up?

Vitor Henrique

On Thu, Apr 18, 2019 at 1:01 PM info <<u>i@ercot.com</u>> wrote:

Dear Vitor Henrique,

Thank you for your inquiry.

Since your company is a registered Market Participant in the ERCOT Market, your request has been routed to the appropriate internal department.

LANCIUM LLC (IMRE)'s assigned Account Manager, Brett Hunsucker, will contact you regarding your request.

Regards,



Information Request Services ERCOT Client Services 2705 West Lake Drive | Taylor, TX www.ercot.com

From: Vitor Henrique [mailto:vitor.henrique@lancium.com]

Sent: Thursday, April 18, 2019 12:09 PM

To: info <<u>i@ercot.com</u>>
Subject: Real-Time LMP

***** EXTERNAL email. Please be cautious and evaluate before you click on links, open attachments, or provide credentials. *****
Hello,

Is there a way to get access to the LMP value though an API instead of the tables?

Best regards,

--

Vitor Henrique System Engineer at <u>Lancium</u> (832) 815 9054

Vitor Henrique
System Engineer at <u>Lancium</u>
(832) 815 9054

From: Raymond Cline < recline@lancium.com>

To: Michael McNamara <michael.mcnamara@lancium.com>

Subject: MP2 Demand Response

Date: Tue, 27 Aug 2019 15:07:49 -0500

Importance: Normal

Attachments: ADK_LD1_- Lancium_- 2019-08-27.xlsx; ADK_LD1_- Lancium_- 2019-08-26.xlsx;

ADK LD1 - Lancium - 2019-08-28.xlsx

Michael,

Attached you will find three spreadsheets that calculate the demand response "revenue". Yesterday was a good day for this program. We had a call with Tim Carter to understand what they were sending to us. "Award" is the MW that ERCOT has awarded us for the hour. "LMP" is the day ahead clearance settlement price, or something like that, which is the price per MW we would receive. Award x "LMP" = dollars to us.

An important point, which didn't come across in our conversations, is that the award is essentially an obligation on our part, that we consume that amount of power that ERCOT COULD curtail. If we routinely use less than our award we could suffer a penalty. Also, if we are going to shutdown or plan to use less than our award we should notify MP2, so that they can balance accordingly.

We are working to automate processing of the spreadsheet we receive from MP2 and we will try to automate notifications if possible. This is a bit more complicated than we originally understood, but we will adapt.

Good news is that we will have received:

8/26 \$4,596.02 8/27 \$337.66

8/28 \$473.88

Total \$5,407.56

That is already more than 1/3 of a months worth of T&D charges.

Cheers, Ray Raymond E. Cline Jr., PhD Chief Computing Officer

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Raymond Cline <recline@lancium.com>, Ian Rock <ian.rock@lancium.com>, Vitor

Henrique <vitor.henrique@lancium.com>

Subject: Thomas Road Power

Date: Fri, 16 Aug 2019 15:29:57 -0400

Attachments: Thomas Road Power Cosiderations.xlsx

As of today, we have a fixed price power contract with Calpine at Thomas Road for ATC power at ~\$34/MWh.

This is cool. We now have two revenue sources: Bitcoin mining and selling power back to grid.

I took a crack at comparing economics. We will want to watch this closely and update regularly - probably multiple times a day.

Please take a look and we can get on a call to discuss.

--

(917) 833-2720

From: David Henson david.henson@lancium.com

To: Michael McNamara <michael.mcnamara@lancium.com>

Cc: "Tobin, Brian" <Brian. Tobin@nexteraenergy.com>, Steve Pattyn <spattyn@gmail.com>, Jon Cohen <jon.cohen@lancium.com>, "Kelly, Kevin" <Kevin.Kelly@nexteraenergy.com>

Subject: Re: Checking / New Mexico Wind Energy Center

Date: Tue, 6 Feb 2018 18:02:13 -0600

Hi Brian, happy to discuss the technical Flex aspects. Our power management platform takes a variety of signals including grid telemetry, nodal economic real time data to derive a shaped load response in the minute response timeframe, 200Kw to 1 MW for the nominal 1 MW units. We are also developing frequency response characteristics within that control range that may be of interest. Our target 'on line' time per machine is in 10 minute (plus 2 minutes spool time). Those metrics are approximately the same at machine level or asset level(1MW Flex box level)

Regards David

David Henson Lancium

On Feb 6, 2018, at 3:59 PM, Michael McNamara < michael.mcnamara@lancium.com > wrote:

Hi Brian,

Once we get some information on the farm's capacity factor, we'll work with you to tailor a solution including some mix of our Core and Flex units. We would like to find a way for Core units to run as much as possible (90pct+). The Flex units, on the other hand, are designed to ramp up and down often. Flex units can ramp up to full capacity and down to 0 load within a 10 minute window. We think we can get that window down to 5 minutes.

I've CC'd our technical head here, David Henson, who can provide more details as needed. As always, we can hop on a call at any time to talk in more detail. Just let us know.

Sent from my iPhone

On Feb 6, 2018, at 4:42 PM, Tobin, Brian < Brian. Tobin@nexteraenergy.com > wrote:

Hi Steve,

We are still working through our structure and are making progress. I have a question, technically, how would the servers shutdown before power comes back in from the grid when the wind stops blowing. Also, what if

From: Vitor Henrique <vitor.henrique@lancium.com>
To: Deon Wyatt <deon.wyatt@mp2energy.com>
Subject: Re: ADK LD1 - Lancium LR Awards.xlsx

Date: Wed, 4 Sep 2019 10:10:22 -0500 **Inline-Images:** image001.jpg; image002.png

Hello Deon,

Any news on today's file? I automated our dashboard with the input file, so we can track it on our operational dashboard.

Best regards,

Vitor Henrique

On Tue, Sep 3, 2019 at 8:50 AM Deon Wyatt < deon.wyatt@mp2energy.com > wrote:

Please see attachment.

Deon Wyatt

MP2 Energy LLC, A Shell Energy North America Subsidiary

O 832.510.1063 | C 832.917.4570 | www.MP2Energy.com



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From: Deon Wyatt < deon.wyatt@mp2energy.com>

Sent: Sunday, September 01, 2019 3:09 PM

To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com;

vitor.henrique@lancium.com

Cc: MP2 Asset Operations Desk < operations@mp2energy.com>

Subject: RE: ADK LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

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From: Deon Wyatt < deon.wyatt@mp2energy.com>

Sent: Saturday, August 31, 2019 2:36 PM

To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com;

vitor.henrique@lancium.com

Cc: MP2 Asset Operations Desk < operations@mp2energy.com>

Subject: RE: ADK LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

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From: Deon Wyatt < <u>deon.wyatt@mp2energy.com</u>>

Sent: Friday, August 30, 2019 2:54 PM

To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com;

vitor.henrique@lancium.com

Cc: MP2 Asset Operations Desk < <u>operations@mp2energy.com</u>>

Subject: RE: ADK LD1 - Lancium LR Awards.xlsx

Please see attachment.

Deon Wyatt

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From: Deon Wyatt

Sent: Thursday, August 29, 2019 2:40 PM

To: 'ian.rock@lancium.com' <ian.rock@lancium.com'>; 'recline@lancium.com' <recline@lancium.com'>; 'thomas.salvatore@lancium.com'

< <u>vitor.henrique@lancium.com</u>>

Cc: MP2 Asset Operations Desk <<u>operations@mp2energy.com</u>>
Subject: Revised ADK LD1 - Lancium LR Awards.xlsx

Revised.

Deon Wyatt

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From: Deon Wyatt

Sent: Wednesday, August 28, 2019 1:48 PM

To: ian.rock@lancium.com; recline@lancium.com; thomas.salvatore@lancium.com;

vitor.henrique@lancium.com

Cc: MP2 Asset Operations Desk < operations@mp2energy.com>

Subject: RE: ADK_LD1 - Lancium LR Awards.xlsx

Deon Wyatt

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Vitor Henrique System Engineer at <u>Lancium</u> (832) 815 9054

External Sender: Use caution with links/attachments.

Hi Todd,

Do you have any intro material on participating in EROT's ERS program? We think our load is well suited, but were curious as to what the process and requirements are.

Also we've been working with Centerpoint on looking at upgrade options for Thomas Rd, but its taking longer than anticipated. Will keep you posted on that

Thanks,

Jon

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BEGIN: VCARD VERSION: 2.1

N;LANGUAGE=en-us:Young;Jay

FN:Jay Young

ORG:Strategic Power Solutions

TITLE:President

TEL; WORK; VOICE: (214) 415-5462

X-MS-OL-DEFAULT-POSTAL-ADDRESS:0

EMAIL;PREF;INTERNET:jyoung@strategicpowersolutions.net

X-MS-OL-DESIGN; CHARSET=utf-8:<card

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REV:20190514T142802Z

END:VCARD

BEGIN:VCARD

From: Michael McNamara <michael.mcnamara@lancium.com> **To:** Jay Young <Jyoung@strategicpowersolutions.net>

Subject: Re: LR DEMAND RESPONSE PRESENTATION 2019.pptx

Date: Sat, 18 May 2019 12:57:01 -0400

Attachments: Lancium_Introduction_and_Overview_-_May_2019.pdf

Jay,

Here is some introductory information on us. As I mentioned, our data centers are co-located directly at wind project substations and generally sit "behind-the-meter". We can pick up and drop 95% of our entire load in under 5 minutes (actually under 1 min) and our load follows the generation profile of the wind facility. We get first call on all power out of the wind facility with the exception that we turn down when prices exceed \$75/MWh.

Our first facility is 36 MW near Lubbock. We will actually have an AEP subtractive meter and ERCOT will be able to monitor our consumption. If we could quality for LR it would be awesome!

Lets chat on Monday?

On Sat, May 18, 2019 at 12:44 PM Michael McNamara < michael.mcnamara@lancium.com > wrote: | Jay,

Do you have 5 min to talk over the phone? Wanted to run an idea by you.

On Sat, May 18, 2019 at 9:34 AM Jay Young <<u>Jyoung@strategicpowersolutions.net</u>> wrote:

I have a call with the QSE Monday morning to start the process. I will follow up after that call with steps to quickly get this going.

Sent from my iPhone

On May 18, 2019, at 11:31 AM, Michael McNamara <michael.mcnamara@lancium.com> wrote:

Ok - what do we do next?

On Sat, May 18, 2019 at 7:35 AM Jay Young Jyoung@strategicpowersolutions.net> wrote:

Jon and Michael -

Attached is the information we discussed on Thursday for the DR programs in ERCOT. This covers all of the high level details. We will need to do a site and software assessment to see what is needed for telemetry, communication, etc.

CPower mentioned that the quickest they have enrolled a new participant was 35 days. So if we want to take advantage of historically high summer revenues, we need to get on this next week.

I used to work for CPower and continue to do business with them. They have a great team and are one of the largest QSE's in the nation.
Please let me know if you have any questions.
Thank you,
Jay A. Young
President
Strategic Power Solutions
214-415-5462

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(917) 833-2720

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(917) 833-2720

(917) 833-2720

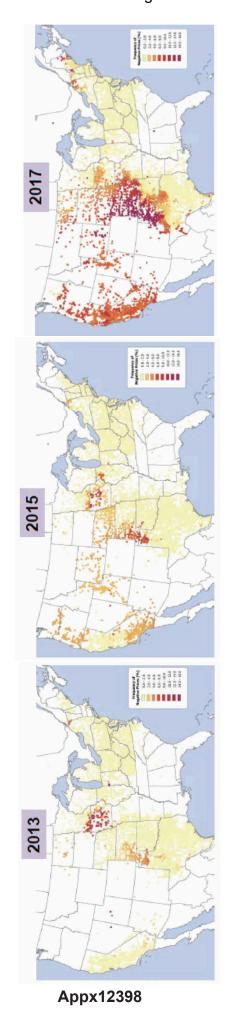
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SOWERING THE FUTURE OF COMPUTING

Case: 23-1922 Document: 39-7 Page: 127 Filed: 01/02/2024

TOO MUCH GREEN POWER IS OVERWHELMING THE GRID

Incidences of Negative Priced Power



Source: National Renewable Energy Laboratory (NREL)



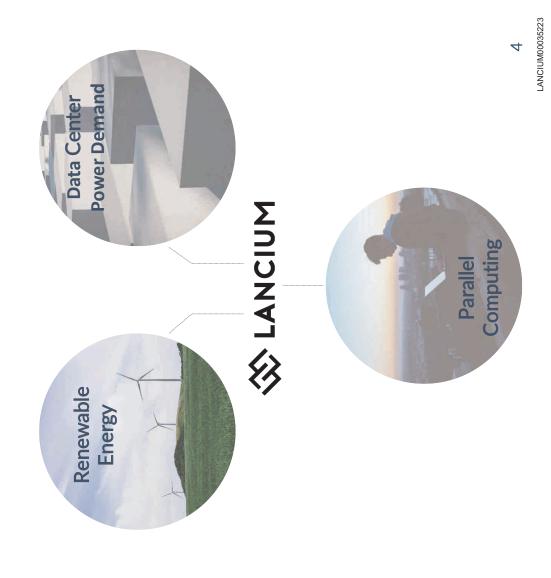
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LANCIUM00035221

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INTRODUCTION

 Lancium is a new company that sits at the confluence of mega trends involving computing and energy Lancium's proprietary solution allows specialized data centers to consume power directly from renewable energy facilities

 Lancium's innovations (30+ patents in process) position the company as the lowest cost provider of distributed computing

LANCIUM00035224

CURRENT MEGA TRENDS IN POWER AND COMPUTING



DATA CENTER POWER **DEMAND**



The End of Moore's Law makes electricity the key cost driver



MOVE TO 100% RENEWABLE

GROWTH OF PARALLEL

COMPUTING

Exploding demand for

perfectly parallel applications



Zero variable cost leads to negative priced electricity increasing frequency of

unaffected by interruptions

These applications (ML, Al

and simulations) are



roles at Siemens.

LANCIUM00035225

BIOGRAPHIES





Michael McNamara

Co-Founder and Chief Executive Officer

investor with deep experience number of multi-billion dollar ouy side institutions. Michael graduated from Georgetown University magna cum laude Previously, Michael covered with degrees in Finance and energy and resources at a Entrepreneur and private in the power, energy and technology industries. Accounting.



Co-Founder and Chief Computing Officer Dr. Cline has over 38 years of management level positions at SAIC, EDS, HP, University of Houston, and CGI. Dr. Cline information technology. He has held research and senior Sandia National Laboratories, distributed computing, and performance computing, has a PhD in Chemical experience in high Physics.



Chief Financial Officer Jon Cohen

the financial services industry. Utilities sector at Millennium and utilities expert with over twenty years experience in nvestment Banker at Credit Highly experienced power Suisse. Jon most recently covered the Power and Jon was previously an

Management.



Joining June, 2019

Andrew Grimshaw, Ph.D.

Chief Software Architect

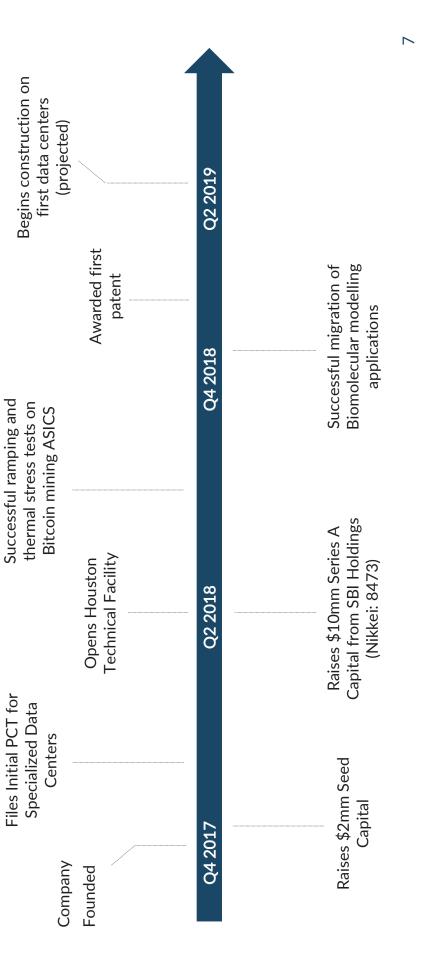
Science, UVA (on leave). He is founded Avaki Corporation, and served as its Chairman and Chief Technical Officer. until 2005 when Avaki was architect of Mentat and Professor of Computer Legion. In 1999 he cothe chief designer and acquired by Sybase.



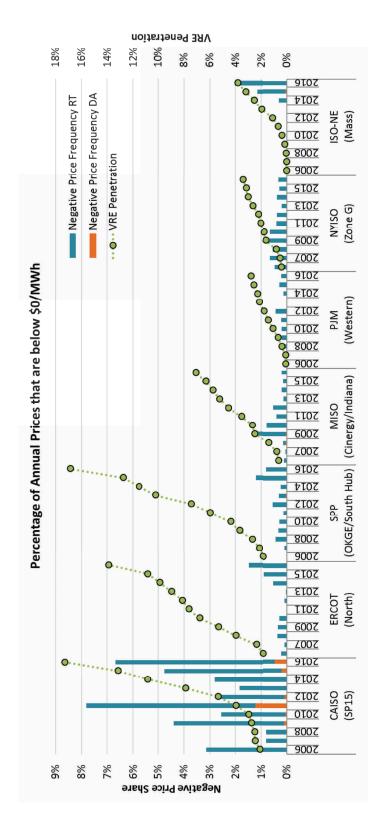
EVP - Operations Eric Kutscha

engineering, and leadership Eric has more than 30 years' after completing more than experience leading electrical power and control projects. Intelligent Packaged Power management of electrical Eric was most recently at 35 years in various sales, engineering and project Rockwell Automation

COMPANY HISTORY AND TIMELINE



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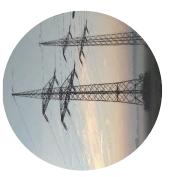


Source: UC Berkeley

DISTRIBUTED COMPUTING IS THE ANSWER

Bring the solution directly to the problem





MORE TRANSMISSION?

- Too expensive
- Cannot get permitted
- No near term projects on horizon in major renewable regions



BATTERY OR STORAGE?

COMPUTE AT THE SOURCE

Consumes excess power directly

from the facility

 Ramps up and down based on power availability and price Perfectly suited for parallel computing applications

- Currently too expensive
- Shifts availability but not incremental demand
- does not support construction Price spread in wind corridor



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HOW CAN DISTRIBUTED COMPUTING WORK USING ONLY WIND POWER?

Uptime?	Target specific applications and control server power rapidly (utilize intermittent power availability)
Lost Work?	Checkpoint application status and move jobs as needed (no redundancy required)
Power Surges?	Use software to dynamically control servers (no UPS needed)
Temperature Control?	Only run when power is available and inexpensive (no HVAC required)
Backup Power?	Not necessary - Lancium computing does not require grid power so no Transmission &
	Distribution charges

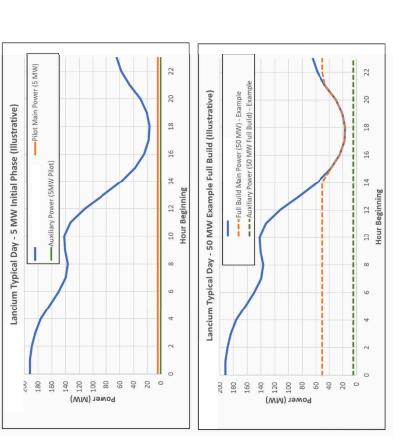
LANCIUM'S BENEFIT TO THE OPERATOR AND THE GRID

Lancium power consumption follows the generation profile of wind projects

Data centers spin up and down rapidly to match load with power availability and price

Lancium will spin down during periods of high priced power to enable:

- Generator to maximize profit
- Stronger, more resilient Grid
- Reduced data center thermal stress



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Document: 39-7 Page: 137 Filed: 01/02/2024

CHALLENGES ADDRESSED: LANCIUM MOAT

Multi-disciplined engineering approach

Fundamental rethinking of data center design, power market structure and computing paradigms

Case: 23-1922

• Addressed via engineering advancements and in-house innovations

Regulatory and transaction structure

Electrical engineering including power factor and harmonics management

Software development and individual server control

Thermal control and heat resistance insights



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LANCIUM COST ADVANTAGES

- World's cheapest power with no transmission and distribution charges
- Excellent Power Use Effectiveness (PUE) with limited parasitic loss
- Flexible clocking ability

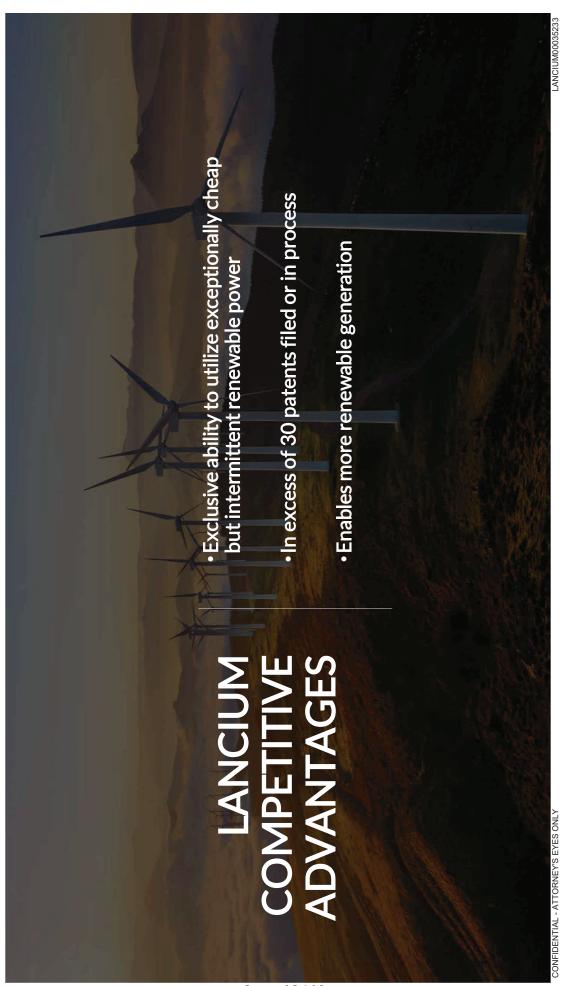
OPERATING COSTS:

Entirely air cooled with no expensive HVAC system Minimal real estate value in Wind Corridor

Very inexpensive to site and build

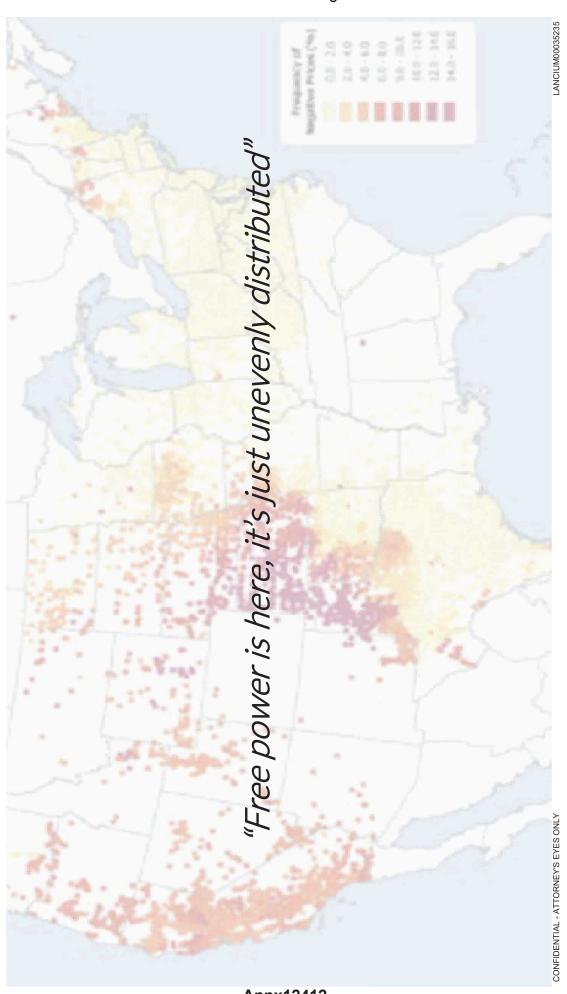
CAPITAL COSTS:

No redundant systems required





GO TO MARKET STRATGEY



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CORPORATE STRATEGY

Capture the Potential Market	Lancium has executed term sheets with four of the world's largest power producers covering 100MW+ of power
Move Fast	The company is proceeding with pilot stage projects at each power producer to solidify first mover and power price advantage
but in a Staged Manner	Pilot stage projects require limited capital with Lancium retaining option to commence commercial stage expansion
Up-Sell Rack Space	The data centers will initially be filled with Crypto mining ASICs and backfilled with High Value distributed computing over time
Target Long-Term Deals	Lancium plans on signing long term deals for distributed computing with customers in
	Industry, Government and Academia

Case: 23-1922 Document: 39-7 Page: 143 Filed: 01/02/2024

> LANCIUM00035237 18

STAGED GROWTH: DATA CENTER LEVEL

Grow footprint to match demand and financing availability

PILOT STAGE: 6MW



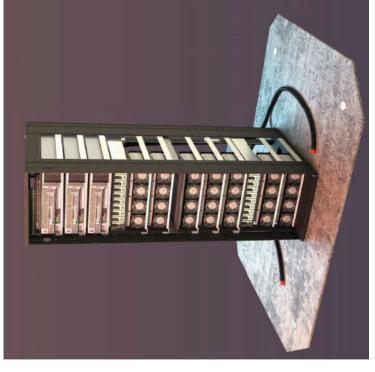




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•



Distributed computing hardware will displace Crypto ASICs over time

STAGED GROWTH: RACK LEVEL





Requires no sales team and provides immediate revenue

Extremely cheap to install on per KW basis

Crypto ASICs are durable and heat resistant

Requires limited data center fabric and network

Bitcoin mining provides steady margin for those with very low priced power

LANCIUM00035239



BITCOIN MINING ECONOMIC CONSIDERATIONS



Extremely rational commodity business

12,000

70,000

50,000

40,000

Hashrate (PH/s)

60,000

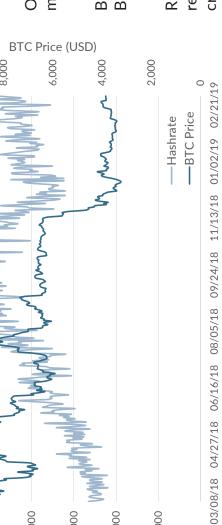
10,000

Due to the End of Moore's Law, limited availability to improve ASICs

Operating cost (electricity) is now the key major variable

Bitcoin mining profitability is driven by Bitcoin price, Hash Rate and electricity

Recently, hash rate has been extremely responsive to Bitcoin price moves which creates embedded margin if one has access to very cheap electricity



22 LANCIUM00035241

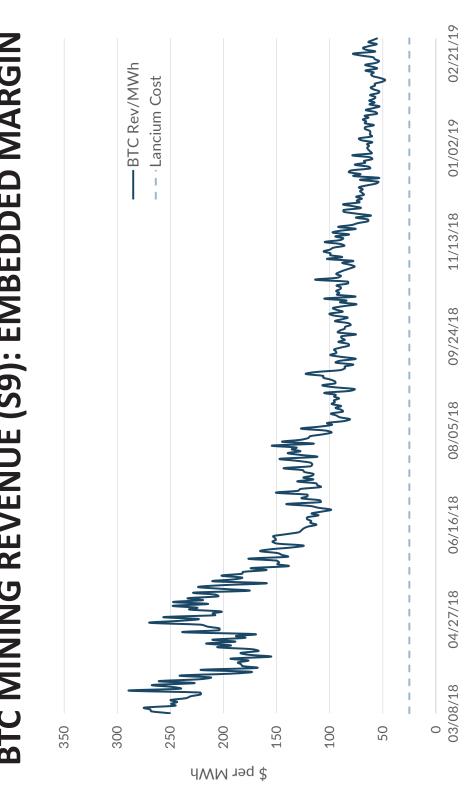
30,000

20,000

10,000

BTC MINING REVENUE (S9): EMBEDDED MARGIN

Case: 23-1922



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AFTER BITCOIN MINING? THE NEXT APPLICATIONS

Description

major Government, Industrial Highest value computing for and Academic research

Parallel computing that does not require expensive and complex networking

High Throughput Computing,

'Loosely Coupled,

first due to ease and low capital Bitcoin mining will be deployed

Low Value Computing

Examples

Fluid Dynamics, Large Machine Learning Studies, Weather Modelling

Monte Carlo Modelling, Small Machine Learning Studies, Image Rendering

Proof-of-Work

High Performance Computing

High Throughput Computing,

(Tightly Coupled)

25 LANCIUM00035244

TOTAL ADDRESSABLE MARKET

Highly Suited to Lancium (USD)	\$3 B	\$5 B	\$5 B	\$3 B
Highly Suited to Lancium %	30%+	25%+	25%+	100%+
Total Addressable Market (USD)	\$10 B	\$20 B	\$20 B	\$3 B
	High Performance Computing	Cloud and Computing Industries	Hyperscale and Consumer Internet	Low Value Computing

Source: NVIDIA, Lancium internal estimates

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

POWER DURATION CURVE

100.0%

%0.0%

80.08

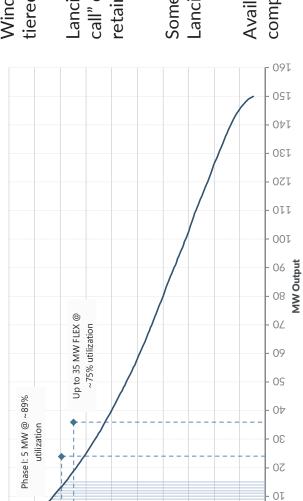
70.0%

Wind production distribution allows for a tiered data center installation

Lancium deal arrangements call for "first call" on power with high priced hours retained by the generator

Some power is nearly always available to Lancium data centers

Available power is routed to most valuable computing hardware first



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0

%0:0

10.0%

WW 60.0%

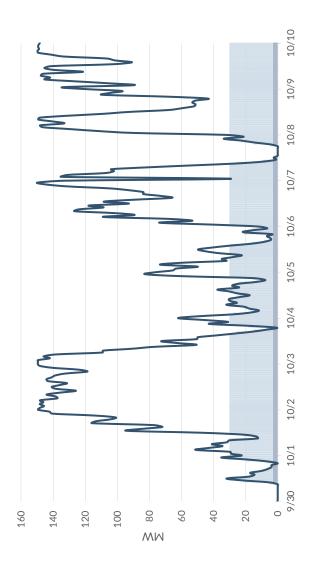
30.0%

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

Low value computing (light blue) will serve as a buffer and absorb the majority of wind power variability

Lancium has proven the resiliency of bitcoin mining hardware to constant and fast ramping

Higher value computing (gray) will receive nearly constant power and will see rare and short periods of downtime



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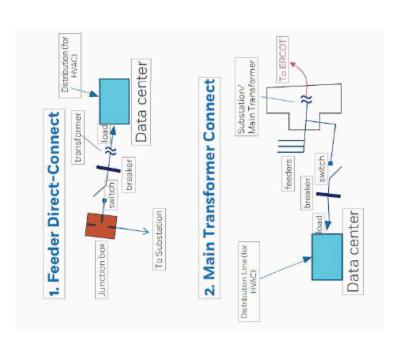
WIND ENGINEERING CONSIDERATIONS

Lancium has developed several interconnection options to fit the needs of its wind partners

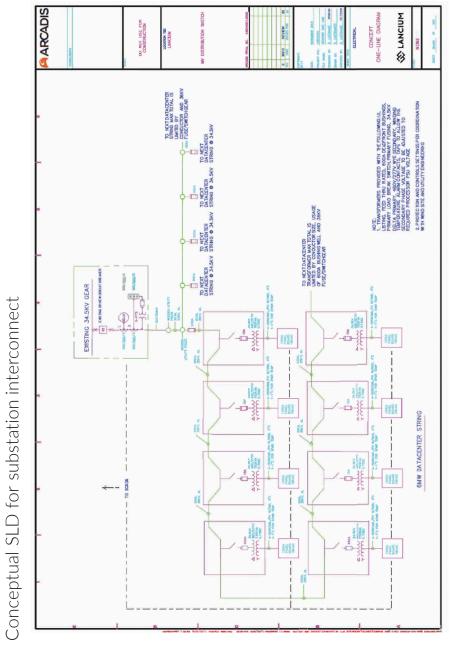
options: (1) Feeder Direct-Connect or (2) Lancium has worked on two potential Main Transformer Connect

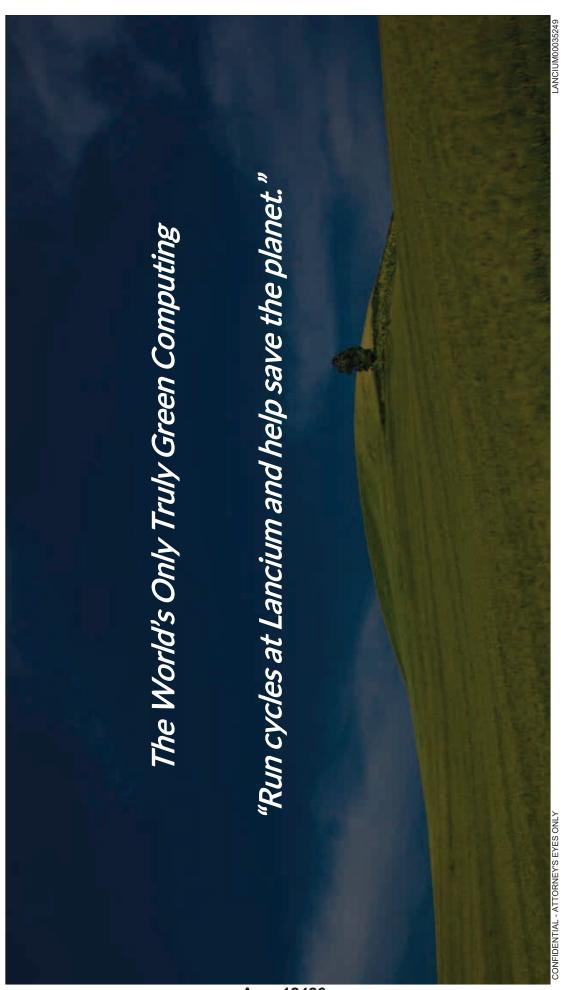
would be behind a breaker-switch and/or Regardless of approach, Server Facility other equipment to enable isolation

curtailment for safety purposes by Lancium) control of wind project (except in cases of Isolation equipment to be in complete



ILLUSTRATIVE SINGLE LINE DIAGRAM





Appx12426

MICHAEL MCNAMARA, Michael McNamara, Storms

Contributors:







Name: Storms

Phone: +1 (985) 377-6257

2019-05-04 04:57:43 +0000

S

Storms +1 (985) 377-6257

Storms

2019-05-05 20:00:52 +0000

Storms, great to meet you at the conference
This is me:

2019-05-05 20:00:53 +0000

https://www.linkedin.com/in/michael-mcnamara-1055211

M

2019-05-05 20:04:41 +0000

Storms

+1 (985) 377-6257

Same here, Michael. I'm not on LinkedIn, but you've got my personal #.

S

I'll put some feelers out to some of my PM friends this week about what we talked about Fri night. Tty soon.

2019-05-05 20:06:45 +0000

Thanks - that's great

I also think your boxes may have some benefits vs the ones we are doing with JB driver

Lots of stuff to collaborate on

М

2019-05-05 23:43:04 +0000

Storms +1 (985) 377-6257

S

Absolutely. I can send you specs on the boxes/PDUs/logic design - what's your email?

Bearbox v Lancium
Trial Exhibit
TX742

2019-05-05 23:45:00 +0000 М Michael.mcnamara@lancium.com 2019-05-05 23:49:01 +0000 Storms +1 (985) 377-6257 2019-05-08 17:45:41 +0000 Michael McNamara M Storms, can you send me those box design specs please! 2019-05-08 20:31:39 +0000 Storms +1 (985) 377-6257 Yep! I'll put it together when I get home tonight 2019-05-08 20:31:55 +0000 Thank you, sir 2019-05-09 14:44:52 +0000 Storms +1 (985) 377-6257 Redoing one of the spec sheets for the newer Whatsminer models then emailing over to you 2019-05-09 14:49:50 +0000 Great - thanks 2019-05-09 15:51:01 +0000 М Also, have you ever looked at building a GPU box? 2019-05-09 15:52:22 +0000 Storms +1 (985) 377-6257 I haven't - but conceptually it's the same. Less electrical load density and less CFM exhaust requirements.

Document: 39-7

Page: 157 Filed: 01/02/2024

Case: 23-1922

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Justin Nolan <justinhnolan@gmail.com>

Cc: Jon Cohen <jon.cohen@lancium.com>, jamie@cormint.com

Subject: Re: Meeting tomorrow

Date: Mon, 6 May 2019 14:47:12 -0400

Attachments: Lancium_Standard_Mutual_NDA_.doc; Lancium_Introduction_and_Overview_-

April 2019.pdf

Jamie,

Looking forward to meeting later today. Attached is our standard NDA and a background pack on us.

Cheers, Michael

On Fri, May 3, 2019 at 9:44 AM Justin Nolan < justinhnolan@gmail.com > wrote:

Great meeting you. I look forward to connecting after this weekend to figure out how we can move this project forward. Thanks

Justin

On May 3, 2019, at 9:16 AM, Michael McNamara < michael.mcnamara@lancium.com > wrote:

Great lunch yesterday. I think there are a number of ways to work together. Jamie, we'll see you soon.

On Wed, May 1, 2019 at 6:56 PM Justin Nolan < justinhnolan@gmail.com > wrote:

Jon

Jamie is driving and I don't know the coordinates but the land is located in ward county

On May 1, 2019, at 5:26 PM, Jon Cohen < jon.cohen@lancium.com > wrote:

Great. We'll see you then. We don't have a reservation, so if any trouble getting a table we'll cal an audible.

In the meantime if you can send me location/ coordinates of site, I can take a look at historical LMPs and see which service territory and tariff rates apply.

On Wed, May 1, 2019 at 2:40 PM Justin Nolan < <u>justinhnolan@gmail.com</u>> wrote:

That works for both of us

- > On May 1, 2019, at 1:40 PM, Jon Cohen < jon.cohen@lancium.com> wrote:
- > Would you both be able to meet tomorrow at 12:45 tomorrow?
- > Michael suggested lunch at Hillstone (27th), but not sure if you have other plans
- >
- | >

Bearbox v Lancium
Trial Exhibit
TX748

(917) 833-2720

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(917) 833-2720

> Bestew curson Trial Exhibit 17749 LANCIUM00035306

MOIDW W

POWERING THE FUTURE OF COMPUTING

TOO MUCH GREEN POWER IS OVERWHELMING THE GRID

0.0-2.0 2.0-4.0 4.0-4.0 4.0-4.0 4.0-4.0 4.0-1.0 1.20-4.0 14.0-3.0 2015 2013

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Incidences of Negative Priced Power

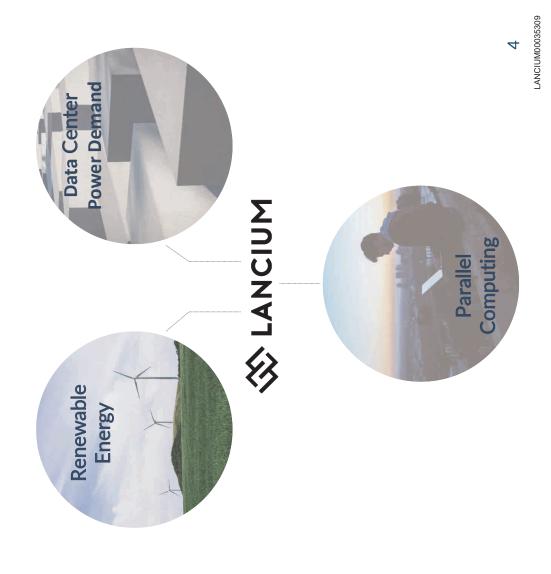
Source: National Renewable Energy Laboratory (NREL)

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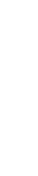
INTRODUCTION

- Lancium is a new company that sits at the confluence of mega trends involving computing and energy
- Lancium's proprietary solution allows specialized data centers to consume power directly from renewable energy facilities
- Lancium's innovations (30+ patents in process) position the company as the lowest cost provider of distributed computing

CURRENT MEGA TRENDS IN POWER AND COMPUTING



DATA CENTER POWER **DEMAND**





The End of Moore's Law makes electricity the key cost driver



MOVE TO 100% RENEWABLE



Zero variable cost leads to negative priced electricity increasing frequency of



GROWTH OF PARALLEL

COMPUTING

Exploding demand for

perfectly parallel applications

- share of the power grid will Renewable generation's continue to grow
- unaffected by interruptions These applications (ML, Al and simulations) are

Document: 39-7

Michael McNamara Co-Founder and Chief Executive Officer

investor with deep experience ouy side institutions. Michael graduated from Georgetown number of multi-billion dollar University magna cum laude Previously, Michael covered with degrees in Finance and energy and resources at a Entrepreneur and private in the power, energy and technology industries.

Raymond Cline, Ph.D.

Dr. Cline has over 38 years of has held research and senior distributed computing, and performance computing, experience in high

management level positions at SAIC, EDS, HP, University of Houston, and CGI. Dr. Cline information technology. He Sandia National Laboratories, has a PhD in Chemical Physics.



BIOGRAPHIES

Jon Cohen

the financial services industry. and utilities expert with over twenty years experience in nvestment Banker at Credit Highly experienced power Suisse. Jon most recently covered the Power and Jon was previously an

Utilities sector at Millennium

Management.



Andrew Grimshaw, Ph.D. Joining June, 2019

Chief Software Architect

Chief Financial Officer

Co-Founder and Chief

Computing Officer

Science, UVA (on leave). He is founded Avaki Corporation, and served as its Chairman and Chief Technical Officer. until 2005 when Avaki was architect of Mentat and Professor of Computer Legion. In 1999 he cothe chief designer and acquired by Sybase.



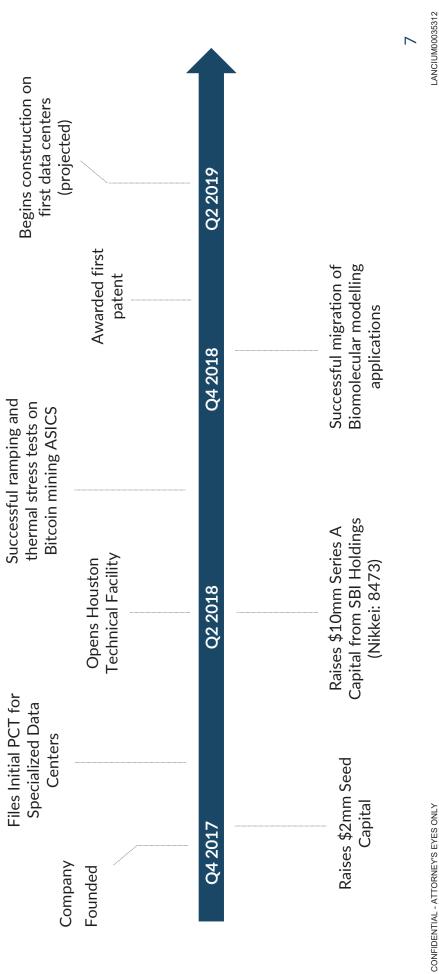
engineering, and leadership Eric has more than 30 years' after completing more than experience leading electrical power and control projects. Intelligent Packaged Power management of electrical Eric was most recently at 35 years in various sales, engineering and project Rockwell Automation

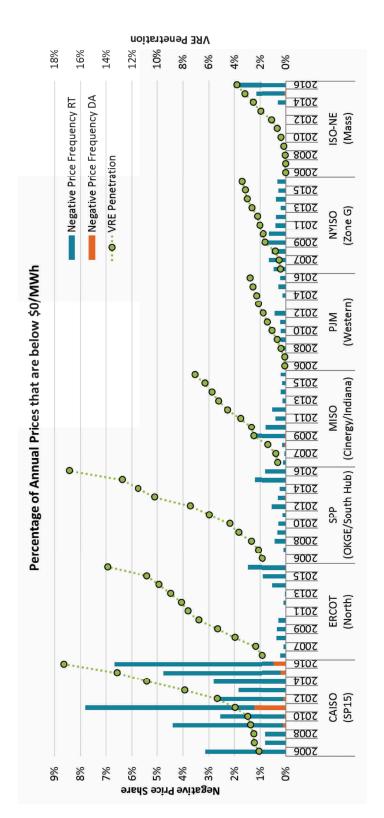
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roles at Siemens.

Accounting.

COMPANY HISTORY AND TIMELINE





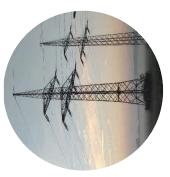
Source: UC Berkeley

DISTRIBUTED COMPUTING IS THE ANSWER

Bring the solution directly to the problem







MORE TRANSMISSION?

- Too expensive
- Cannot get permitted
- No near term projects on horizon in major renewable regions



BATTERY OR STORAGE?

COMPUTE AT THE SOURCE

Consumes excess power directly

from the facility

 Ramps up and down based on power availability and price Perfectly suited for parallel computing applications

Shifts availability but not Currently too expensive

incremental demand

does not support construction Price spread in wind corridor



LANCIUM00035314

LANCIUM00035315

10

HOW CAN DISTRIBUTED COMPUTING WORK USING ONLY WIND POWER?

Uptime?	Target specific applications and control server power rapidly (utilize intermittent power availability)
Lost Work?	Checkpoint application status and move jobs as needed (no redundancy required)
Power Surges?	Use software to dynamically control servers (no UPS needed)
Temperature Control?	Only run when power is available and inexpensive (no HVAC required)
Backup Power?	Not necessary - Lancium computing does not require grid power so no Transmission &
	Distribution charges

LANCIUM'S BENEFIT TO THE OPERATOR AND THE GRID

Lancium power consumption follows the generation profile of wind projects

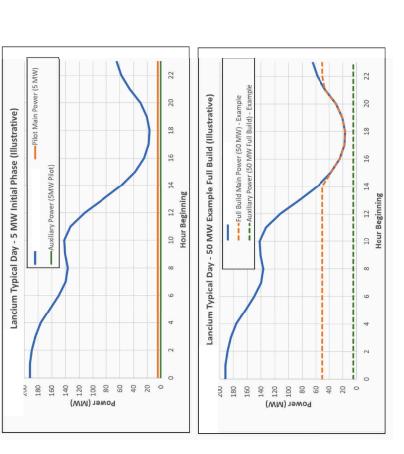
Data centers spin up and down rapidly to match load with power availability and price

Lancium will spin down during periods of high priced power to enable:



Stronger, more resilient Grid

Reduced data center thermal stress



LANCIUM00035316

Document: 39-7 Page: 171 Filed: 01/02/2024

CHALLENGES ADDRESSED: LANCIUM MOAT

Multi-disciplined engineering approach

Fundamental rethinking of data center design, power market structure and computing paradigms

Case: 23-1922

Addressed via engineering advancements and in-house innovations

Regulatory and transaction structure

Electrical engineering including power factor and harmonics management

Software development and individual server control

Thermal control and heat resistance insights



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LANCIUM COST ADVANTAGES

CAPITAL COSTS:

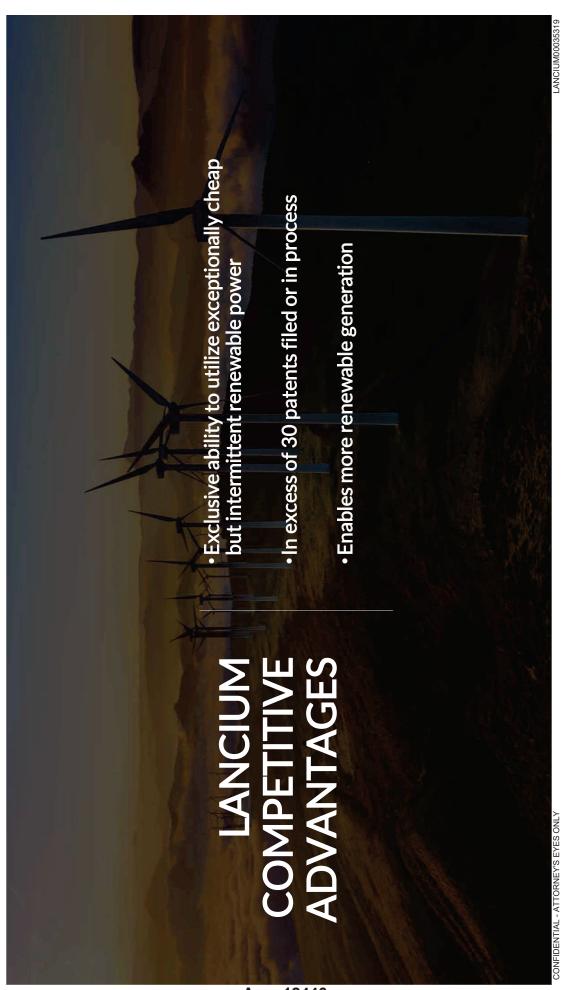
- · Very inexpensive to site and build
- Minimal real estate value in Wind Corridor

Entirely air cooled with no expensive HVAC system

No redundant systems required

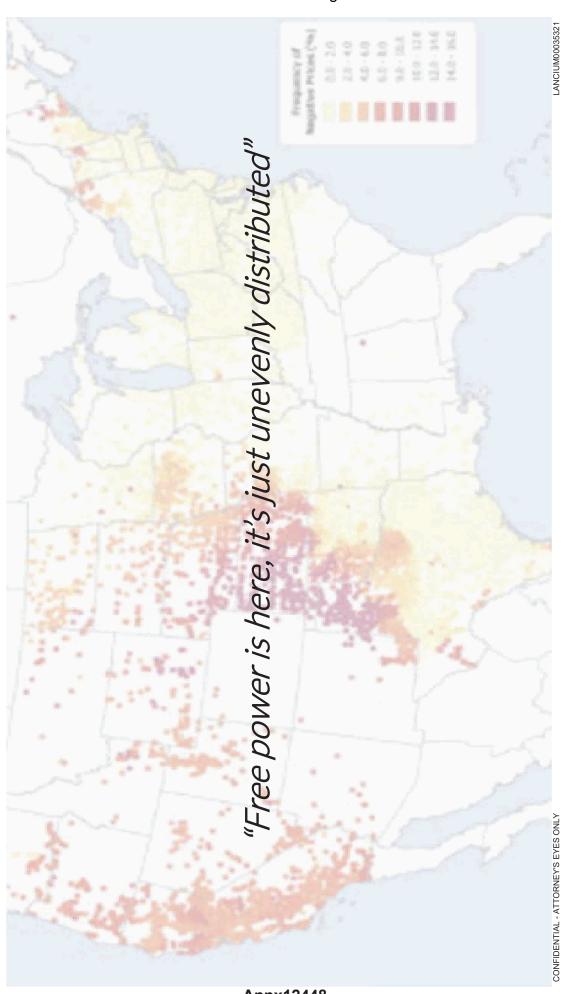
OPERATING COSTS:

- World's cheapest power with no transmission and distribution charges
- Excellent Power Use Effectiveness (PUE) with limited parasitic loss
- Flexible clocking ability





GO TO MARKET STRATGEY



Appx12448

CORPORATE STRATEGY

Capture the Potential Market	Lancium has executed term sheets with four of the world's largest power producers covering 100MW+ of power
Move Fast	The company is proceeding with pilot stage projects at each power producer to solidify first mover and power price advantage
but in a Staged Manner	Pilot stage projects require limited capital with Lancium retaining option to commence commercial stage expansion
Up-Sell Rack Space	The data centers will initially be filled with Crypto mining ASICs and backfilled with High Value distributed computing over time
Target Long-Term Deals	Lancium plans on signing long term deals for distributed computing with customers in

STAGED GROWTH: DATA CENTER LEVEL

Grow footprint to match demand and financing availability

PILOT STAGE: 6MW





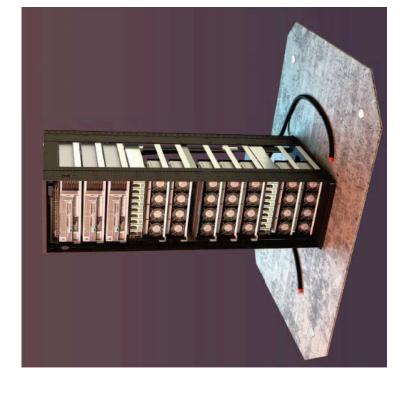


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18 LANCIUM00035323

LANCIUM00035324



Distributed computing hardware will displace Crypto ASICs over time STAGED GROWTH: RACK LEVEL





Requires no sales team and provides immediate revenue

Extremely cheap to install on per KW basis

Crypto ASICs are durable and heat resistant

Requires limited data center fabric and network

Bitcoin mining provides steady margin for those with very low priced power

LANCIUM00035325

BITCOIN MINING ECONOMIC CONSIDERATIONS



Extremely rational commodity business

12,000

70,000

60,000

10,000

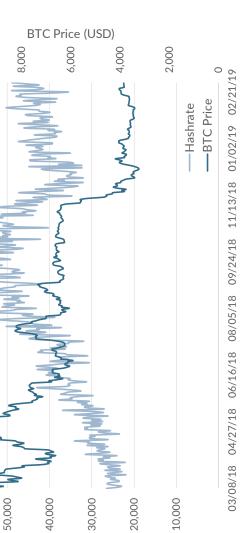
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Recently, hash rate has been extremely responsive to Bitcoin price moves which creates embedded margin if one has access to very cheap electricity

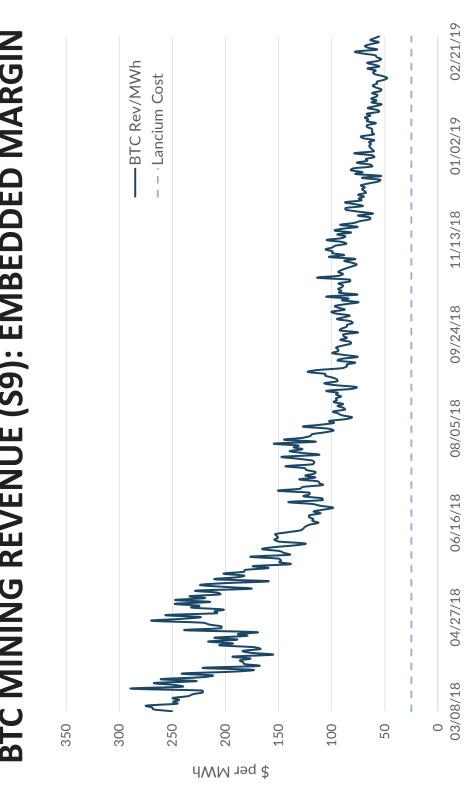
22 LANCIUM00035327



Hashrate (PH/s)

BTC MINING REVENUE (S9): EMBEDDED MARGIN

Case: 23-1922



24 LANCIUM00035329

AFTER BITCOIN MINING? THE NEXT APPLICATIONS

Description

Highest value computing for major Government, Industrial and Academic research

Parallel computing that does not require expensive and complex networking

High Throughput Computing,

'Loosely Coupled,

Bitcoin mining will be deployed first due to ease and low capital

Low Value Computing

Examples

Fluid Dynamics, Large Machine Learning Studies, Weather Modelling

Monte Carlo Modelling, Small Machine Learning Studies, Image Rendering

Proof-of-Work

High Performance Computing

High Throughput Computing,

(Tightly Coupled)

25 LANCIUM00035330

TOTAL ADDRESSABLE MARKET

Highly Suited to Lancium (USD)	\$3 B	\$5 B	\$5 B	\$3 B
Highly Suited to Lancium %	30%+	25%+	25%+	100%+
Total Addressable Market (USD)	\$10 B	\$20 B	\$20 B	\$3 B
	High Performance Computing	Cloud and Computing Industries	Hyperscale and Consumer Internet	Low Value Computing

Source: NVIDIA, Lancium internal estimates

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

POWER DURATION CURVE

100.0%

%0.0%

80.08

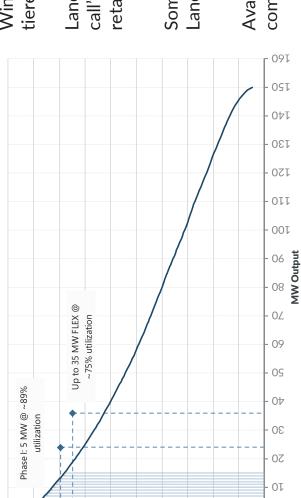
70.0%

Wind production distribution allows for a tiered data center installation

Lancium deal arrangements call for "first call" on power with high priced hours retained by the generator

Some power is nearly always available to Lancium data centers

Available power is routed to most valuable computing hardware first



26

0

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10.0%

WW 60.0%

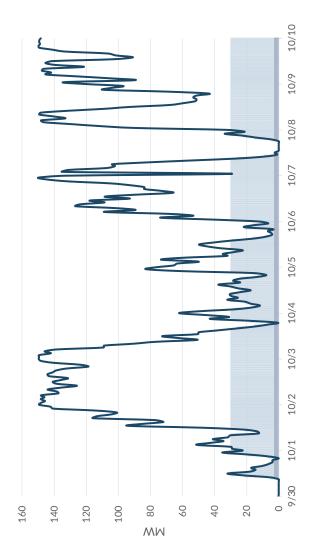
30.0%

WHY WIND? THE DISTRIBUTION OF POWER GENERATION

Low value computing (light blue) will serve as a buffer and absorb the majority of wind power variability

Lancium has proven the resiliency of bitcoin mining hardware to constant and fast ramping

Higher value computing (gray) will receive nearly constant power and will see rare and short periods of downtime



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LANCIUM00035333 28

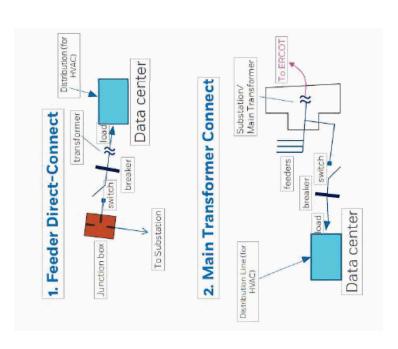
WIND ENGINEERING CONSIDERATIONS

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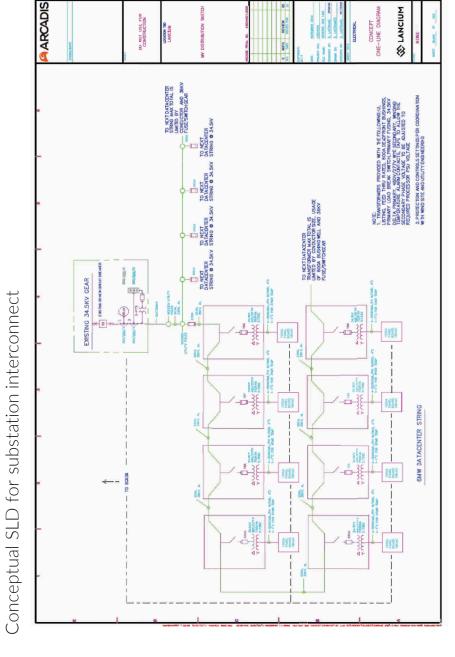
options: (1) Feeder Direct-Connect or (2) Lancium has worked on two potential Main Transformer Connect

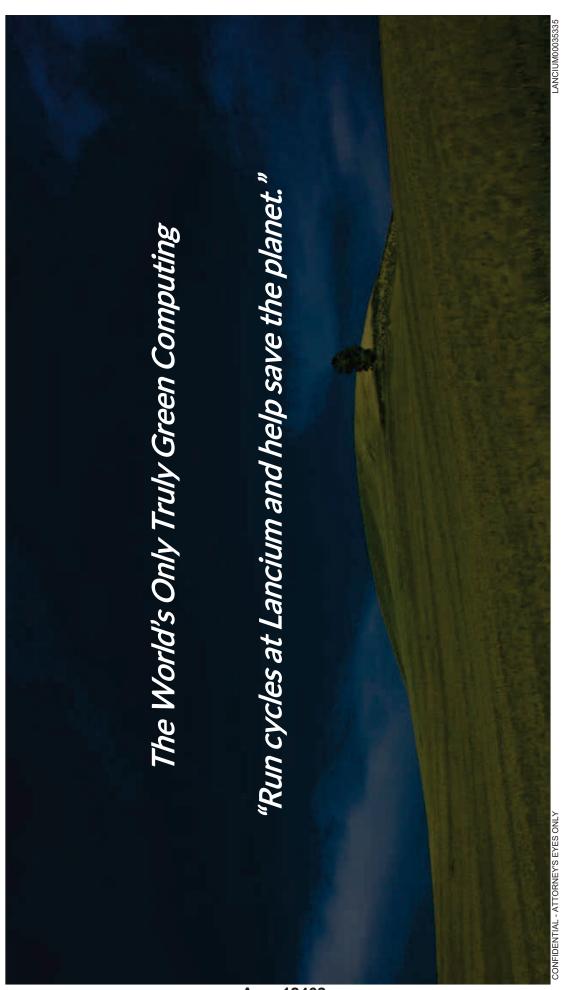
would be behind a breaker-switch and/or Regardless of approach, Server Facility other equipment to enable isolation

curtailment for safety purposes by Lancium) control of wind project (except in cases of Isolation equipment to be in complete



ILLUSTRATIVE SINGLE LINE DIAGRAM





Appx12462

CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement (this "Agreement") is delivered this _____ day of ______, 201___, by and between Lancium, LLC, for itself and on behalf of its affiliates, successors and assigns ("Lancium") and _____, for itself and on behalf of its affiliates, successors and assigns ("______"). Any party receiving information in connection with the Matter shall, together with its affiliates, be considered a "Receiving Party" with respect to such information, and any party disclosing information in connection with the Matter shall, together with its affiliates, be considered as a "Disclosing Party" with respect to such information. In connection with the [SUBJECT MATTER] (the "Matter"), each Receiving Party has requested access to certain information which is either non-public or proprietary in nature. In consideration for and as a condition to a Disclosing Party furnishing such information, each Receiving Party agrees to treat any Confidential Material in accordance with the provisions set forth below, acknowledging the confidential and proprietary nature of such Confidential Material.

As used herein, the term "Confidential Material" means any and all information concerning a Disclosing Party, its affiliates and subsidiaries and its customers which is furnished to a Receiving Party or its Representatives by or on behalf of a Disclosing Party (including any information containing, reflecting or generated from such information), whether furnished before or after the date of this Agreement and regardless of the manner in which it is furnished, including but not limited to, information regarding a Disclosing Party's inventions, products, software, trade secrets, know-how, technical information, specifications, original works of authorship, developments, concepts, improvements, designs, discoveries, ideas, processes, techniques, formulas, trademarks, data and other intellectual property, business plans and strategies, existing or proposed bids, technical or engineering developments, existing or proposed research projects, knowledge gained through observation of or access to facilities, financial or business information or projections, employees, investments, marketing plans and strategies, pricing and cost information, negotiation strategies, training information and materials, information, identities, usages or requirements of existing or potential suppliers and customers, and in each case shall include all notes, analyses, memoranda or other writings containing Confidential Material prepared by or on behalf of Receiving Party or its employees, affiliated entities (including officers or directors of such entities), representatives, joint venturers, business partners or agents (collectively the "Representatives").

Nothing contained herein shall be construed as restricting disclosure or use of the following information: (a) information which, prior to the time of disclosure by a Disclosing Party, was known to a Receiving Party as evidenced by its written records; (b) information which, at the time of disclosure to a Receiving Party, was in the public domain; (c) information which, after disclosure to a Receiving Party, becomes part of the public domain other than through the fault or negligence of a Receiving Party or its Representatives, or as a result of a breach of this Agreement by the Receiving Party or its Representatives; or (d) information which is disclosed to a Receiving Party in good faith by a third party who was not, nor is not, under any obligation of confidence to Disclosing Party at the time the third party discloses the information to Receiving Party.

It is understood that the Receiving Party may disclose any of the Confidential Material to those Representatives who require such material for the purpose of the Matter (provided that such Representatives shall be informed of the confidential nature of the Confidential Material and shall be bound by the terms and conditions hereof as if they were a party hereto). In any event, each Receiving Party will be responsible for any breach of this Agreement by its Representatives. Each Receiving Party agrees that the Confidential Material will be kept confidential by it and its Representatives and, except with the specific prior written consent of a Disclosing Party or as expressly otherwise permitted by the terms hereof, will not be disclosed by a Receiving Party or its Representatives. Each Receiving Party further agrees that such Receiving Party and its Representatives will not use any of the Confidential Material for any reason or purpose other than for the Matter and that the Confidential Material shall not be used in any way detrimental to a Disclosing Party. Each Receiving Party also agrees to be responsible for enforcing the confidentiality of the Confidential Material and agrees to take such action, legal or otherwise, to the extent necessary to prevent any disclosure of the Confidential Material by any of its Representatives.

10101345v1 11/28/2018 10:48 AM 7816.001

Bearbox v Lancium
Trial Exhibit
TX750

Without the prior written consent of a Disclosing Party, neither a Receiving Party nor its Representatives will disclose to any person (i) the fact that the Confidential Material has been made available to it or that a Receiving Party has inspected any portion of the Confidential Material, or (ii) the fact that any discussions are taking place in connection with the Matter, or relating to a possible relationship with a Receiving Party, including the status thereof.

In the event that a Receiving Party or any of its Representatives become legally compelled (by oral questions, interrogatories, requests for information or documents, subpoena, civil investigative demand or similar process) to make any disclosure which is prohibited or otherwise constrained by this Agreement, such Receiving Party or such Representative, as the case may be, will (i) provide the Disclosing Party with prompt notice of such request(s) so that it may seek an appropriate protective order or other appropriate remedy and/or waive the Receiving Party's or such Representative's compliance with the provisions of this Agreement and (ii) cooperate with the Disclosing Party (at the Disclosing Party's expense) in its efforts to decline, resist or narrow such requests. In the event that such protective order or other remedy is not obtained and a Receiving Party or any its Representatives is compelled to disclose any of the Confidential Material, (i) only that portion of the Confidential Material that is legally required to be disclosed shall be furnished by the Receiving Party and (ii) the Receiving Party shall use its best efforts to obtain (or to cooperate with the Disclosing Party in its efforts to obtain) an order or other reliable assurance that confidential treatment will be accorded any Confidential Material so disclosed.

If a Receiving Party determines that it does not wish to proceed with a relationship or transaction related to the Matter, it shall promptly notify the Disclosing Party of such decision. At such time, or at any time upon the written request of a Disclosing Party, the Receiving Party shall (a) promptly destroy all copies of the Disclosing Party's written Confidential Material in the Receiving Party's possession and direct its Representatives to destroy any written Confidential Material in its possession, (b) cause the deletion from all immediately accessible computer storage systems of any electronic versions of the Confidential Material, and (c) promptly destroy all analyses, compilations, summaries, studies and other material prepared by the Receiving Party or its Representatives which are based in whole or in part on, or otherwise containing or reflecting any of, the Confidential Material. An officer of the Receiving Party shall certify any such destruction to the Disclosing Party in writing. Notwithstanding the foregoing, a Receiving Party shall be permitted to retain an electronic copy of any Confidential Material in compliance with any bona fide, preexisting records retention policy solely for archival purposes. Any Confidential Material that is not so destroyed, including without limitation any oral Confidential Material, shall remain subject to the confidentiality and other obligations set forth in this Agreement.

Each Receiving Party understands that neither a Disclosing Party nor its Representatives or agents make any representation or warranty (express or implied) as to the accuracy or completeness of the Confidential Material. Each Receiving Party agrees that neither a Disclosing Party nor its Representatives or agents shall have any liability to a Receiving Party or any of its Representatives resulting from the use of the Confidential Material by the Receiving Party or such Representatives. The agreements set forth in this paragraph may be modified or waived only by a separate writing signed by the Disclosing Party and the Receiving Party expressly so modifying or waiving such agreements.

Each Receiving Party acknowledges that money damages would be both incalculable and an insufficient remedy for any breach of this Agreement by it or its Representatives and that any such breach would cause the Disclosing Party irreparable harm. Accordingly, each Receiving Party agrees that in the event of any breach or threatened breach of this Agreement, the Disclosing Party shall be entitled, without the requirement of posting a bond or other security, to equitable relief, including injunctive relief and specific performance. Such remedy shall not be the exclusive remedy for any breach of this Agreement but shall be in addition to all other remedies available at law or equity to a Disclosing Party.

The confidentiality restrictions imposed hereby shall continue for a period of two (2) years from the date of this Agreement. This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware.

It is understood and agreed that no failure or delay by a Disclosing Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power or privilege hereunder. If at any time the duration, scope, area or restrictions in this Agreement are found to be invalid, unreasonable or unenforceable under circumstances then existing, the parties agree that the maximum duration, scope, area or restrictions which are valid, reasonable and enforceable under such circumstances shall be substituted for the stated duration, scope, area or restrictions and that a court shall be allowed and directed to revise the terms contained herein to cover the maximum duration, scope, area and restriction permitted by law. If a court declines to amend this Agreement as provided herein, the invalidity of any one or more of the words, phrases, sentences, clauses or sections contained in this Agreement shall not affect the enforceability of the remaining portions of this Agreement or any part thereof, all of which are separate and independent and inserted conditionally on their being valid in law, and, in the event that any one or more of the words, phrases, sentences, clauses, paragraphs or sections contained in this Agreement shall be declared invalid, this Agreement shall be construed as if such invalid word or words, phrase or phrases, sentence or sentences, clause or clauses, paragraph or paragraphs, or section or sections had not been inserted.

This Agreement may be executed in counterparts, each of which shall be deemed an original and both of which, taken together, shall constitute one and the same instrument. Signatures for the parties transmitted by facsimile or other electronic means shall be deemed to be their original signatures for any purpose whatsoever.

IN WITNESS WHEREOF, each of the undersigned hereby executes this Confidentiality Agreement as of the date set forth above.

LANCIUM, LLC

Its:

From: Michael McNamara <michael.mcnamara@lancium.com>

To: Ian Rock <ian.rock@lancium.com>, Raymond Cline <recline@lancium.com>

Subject: Fwd: FW: ERCOT Energy Curves Have Been Updated

Date: Wed, 14 Aug 2019 11:48:54 -0500

Importance: Normal

Attachments: Lancium_August_2019_Renewal_-_24_months.docx

We can fix our power price at 34.62 for 1.3 mw for 24 months. This would allow us to capture all that revenue above that level once we spin down.

Any objections or thoughts?

----- Forwarded message ------

From: **Todd Wilson** < <u>Todd.Wilson@calpinesolutions.com</u>>

Date: Wed, Aug 14, 2019 at 11:45 AM

Subject: RE: FW: ERCOT Energy Curves Have Been Updated To: Michael McNamara <<u>michael.mcnamara@lancium.com</u>> CC: Joe Nesser <<u>Joe Nesser@calpinesolutions.com</u>>

Michael,

Attached is a contract for the fixed price of \$34.62, 24 months, 1.3 MW ATC.

Best Regards,

Todd

Todd Wilson

Cell: (919) 414-7986

From: Michael McNamara [mailto:michael.mcnamara@lancium.com]

Sent: Wednesday, August 14, 2019 11:29 AM
To: Todd Wilson < Todd.Wilson@calpinesolutions.com >
Subject: Re: FW: ERCOT Energy Curves Have Been Updated

External Sender: Use caution with links/attachments.

Let's do 24 month please

On Wed, Aug 14, 2019 at 11:24 AM Todd Wilson < <u>Todd.Wilson@calpinesolutions.com</u>> wrote:

Pricing just came in for our desk: pricing is fixed price energy only, all other costs pass-through at cost. Due to your historical usage the most we can fix in terms of volume is 1.3 MW's for now, we can add to that as your load increases.

Bearbox v Lancium
Trial Exhibit
TX756

Pricing is for start date of August 16th. 1.3 MW fixed price round the clock for 24 months = \$ 34.62 per Mwhr. 1.3 MW fixed price round the clock for 36 months = \$ 34.53 per Mwhr. Let me know what you think. Best Regards, Todd Todd Wilson Cell: (919) 414-7986 From: Michael McNamara [mailto:michael.mcnamara@lancium.com] Sent: Wednesday, August 14, 2019 8:45 AM **To:** Todd Wilson < <u>Todd.Wilson@calpinesolutions.com</u>> Subject: Re: FW: ERCOT Energy Curves Have Been Updated External Sender: Use caution with links/attachments. Ok On Wed, Aug 14, 2019 at 7:38 AM Todd Wilson < Todd. Wilson@calpinesolutions.com > wrote: Will have pricing for you today but as you can see pricing has gone up \$1.00 for the 24 month term. I will speak with the wholesale desk to see how the market is shaping up for later today. Best Regards, Todd Todd Wilson Cell: (919) 414-7986 From: Mark Ruggles Sent: Wednesday, August 14, 2019 7:32 AM To: CS ERCOT Desk < CS ERCOT Sales Team

Case: 23-1922 Document: 39-7 Page: 195 Filed: 01/02/2024

< CSERCOTSalesTeam@CalpineSolutions.com >; Ercot_desk@champion.energy; CES.Dept_DL-<u>C&I@calpine.com</u>; <u>Marcus Dotson < MDotson@cavallotspp.com</u>>; <u>Jattkisson@cavallotspp.com</u>; tdortch@cavallotspp.com; LuAnn Morgan < lmorgan@cavallotspp.com >; Byron Gannaway <BGannaway@cavallotspp.com>; Patricia Young <pyoung@cavallotspp.com>

Subject: ERCOT Energy Curves Have Been Updated

between Tue, Aug 13, 2019 5:35 PM (Pacific) and Wed, Aug 14, 2019 7:31 AM (Pacific) North Hub Hous Hub South Hub West Hub

ICIIII	Northinab	11003 1100	Jouthinab	VVCSCIIUD
3 Mo	0.48	0.48	0.48	0.48
6 Mo	0.41	0.41	0.41	0.41
12 Mo	1.36	1.36	1.36	1.36
24 Mo	1.00	1.00	1.00	1.00
36 Mo	0.88	0.88	0.88	0.88
48 Mo	0.78	0.78	0.78	0.78
60 Mo	0.72	0.72	0.72	0.72

Price Change Since Last Upload \$/MWh

<u> </u>	Day-over-Da	ay Price Ch	ange \$/MW	/h	
between	Tue, Aug 13, 2	2019 12:00 AN	И	(Pacific)	
and	Wed, Aug 14,	2019 7:31 AN	Л	(Pacific)	
Term	North Hub	Hous Hub	South Hub	West Hub	
3 Mo	0.48	0.48	0.48	0.48	Ì
6 Mo	0.41	0.41	0.41	0.41	Ì
12 Mo	1.36	1.36	1.36	1.36	
24 Mo	1.00	1.00	1.00	1.00	Ì
36 Mo	0.88	0.88	0.88	0.88	Ì
48 Mo	0.78	0.78	0.78	0.78	Ì
60 Mo	0.72	0.72	0.72	0.72	Ì

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ADDENDUM FOR FIXED PRICE, FIXED VOLUME ELECTRICITY with Settlement Interval Balancing (ERCOT)

Reference:

ELECTRICITY SALES AND PURCHASE AGREEMENT Between Calpine Energy Solutions, LLC ("Seller") And LANCIUM LLC ("Buyer") As of June 18, 2018 ("Effective Date") Addendum Date: August 14, 2019

This Addendum (the "Addendum") supplements the Electricity Sales and Purchase Agreement referred to above (the "Agreement"). The Parties hereby agree to the terms and conditions set forth herein for Buyer's Facilities served at the Delivery Point. Capitalized terms not otherwise defined in this Addendum shall have their meanings set forth elsewhere in the Agreement, including its Appendices.

1. PRODUCT:

Contract Prices for Electricity set forth in this Addendum include each component identified in the table set forth below that is indicated by an [X], which are referred to collectively in this Addendum as "Electricity."

	ELECTRICITY:
\square	Electric Energy
	Ancillary Services (Reg-Up, Reg-Down, Responsive Reserve, and Non-Spin)
	ISO QSE/SC Charges and Fees
	RUC Make-Whole Uplift, RUC Clawback, and RUC Decommitment
	Distribution/Transmission Losses/UFE (collectively, "Line Losses")
	Locational Basis

2. DELIVERY PERIOD:

This Addendum shall be in full force and effect as of the Addendum Date. The terms set forth herein shall apply from the Start Date through the End Date:

Start Date:	End Date:
August 16, 2019	July 31, 2021

3. **DELIVERY POINT:**

Market Area	Supply Point	Delivery Point
ERCOT	Houston Trading Hub	Houston Load Zone

4. PRICING:

4.1 <u>Contract Price</u>. For each settlement interval, Buyer shall pay the following Contract Price per MWh for the Contract Quantity of Electricity set forth in the table below:

Contract Price (in US\$/MWh)
\$34.62

The Contract Price set forth above includes only the components set forth in Section One of this Addendum that are marked with an [X]. All other charges shall be passed through directly to Buyer. The Contract Price reflects the value related to Congestion Revenue Rights.

- 4.2 <u>Monthly Settlement.</u> Buyer's invoice shall reflect charges based on Buyer's usage as set forth below. If Line Losses are not included in Section 1, Buyer's metered usage shall be adjusted for Line Losses. If Line Losses are included in Section 1, the Excess Quantity shall be adjusted for Line Losses.
 - 4.2.1 During any settlement interval, if Buyer's usage exceeds the Contract Quantity set forth below ("Excess Quantity"), Buyer shall pay Seller the real-time price for energy and all related delivery charges, as determined by ERCOT at the Delivery Point, plus \$1.00 per MWh for the Excess Quantity. Buyer shall also pay RUC capacity short charges on the Excess Quantity. For the purpose of determining RUC capacity short charges, Buyer acknowledges that the ERCOT real time market will be considered the source for all of the Excess Quantity.
 - 4.2.2 During any settlement interval, if Buyer's usage is less than the Contract Quantity as set forth below ("Deficit Quantity"), Seller shall credit Buyer's account by an amount equal to the Deficit Quantity multiplied by the real-time price for energy as determined by ERCOT at the Delivery Point.
- 4.3 <u>Locational Basis</u>. Locational Basis shall be calculated each settlement interval as an amount equal to the real time settlement point price at the Delivery Point less the real time settlement point price at the Supply Point. If the Locational Basis component is not marked as included in Section 1 above, Locational Basis shall be added to the

Addendum for Fixed Price, Fixed Volume Electricity

Bearbox v Lancium Trial Exhibit **TX757**

Rev 12.01.16

Contract Price. If the Locational Basis component is not marked as included and Line Losses are marked as included in Section 1, Locational Basis shall be adjusted by the appropriate loss factor.

4.4 Changes in Circumstances

- 4.4.1 The Contract Price and all other terms and conditions of this Addendum are established in reliance on the accuracy of information provided to Seller concerning Buyer's load requirements. Any incremental costs incurred by Seller as a result of inaccuracies in any such information provided to Seller may be passed through to Buyer.
- 4.4.2 The Contract Price and all other terms and conditions of this Addendum are established in reliance on the existing Laws, rates, charges, independent system operator processes, market structure, congestion zone design and protocols that are in effect as of the Addendum Date. In the event of changes in the above that cause additional costs to Seller, Seller may pass through such costs to Buyer.

5. CONTRACT QUANTITY:

Seller shall service 100% of Buyer's Electricity requirements at Buyer's Facilities. The Contract Quantities for this Transaction are set forth below:

The Contract		Contract Quantities at (c int	choose one)
		Quantity*	
Month	5x16 Contract Quantity (MW)	2x16 Contract Quantity (MW)	7x8 Contract Quantity (MW)
8/2019	1.30	1.30	1.30
9/2019	1.30	1.30	1.30
10/2019	1.30	1.30	1.30
11/2019	1.30	1.30	1.30
12/2019	1.30	1.30	1.30
1/2020	1.30	1.30	1.30
2/2020	1.30	1.30	1.30
3/2020	1.30	1.30	1.30
4/2020	1.30	1.30	1.30
5/2020	1.30	1.30	1.30
6/2020	1.30	1.30	1.30
7/2020	1.30	1.30	1.30
8/2020	1.30	1.30	1.30
9/2020	1.30	1.30	1.30
10/2020	1.30	1.30	1.30
11/2020	1.30	1.30	1.30
12/2020	1.30	1.30	1.30
1/2021	1.30	1.30	1.30
2/2021	1.30	1.30	1.30
3/2021	1.30	1.30	1.30
4/2021	1.30	1.30	1.30
5/2021	1.30	1.30	1.30
6/2021	1.30	1.30	1.30
7/2021	1.30	1.30	1.30

^{*}As used in the table above, (i) "5x16" means hours ending ("HE") HE 7:00 through HE 22:00 CPT Monday through Friday, excluding NERC holidays, (ii) "2x16" means HE 7:00 through HE 22:00 CPT Saturday, Sunday and NERC holidays, and (iii) "7x8" means HE 1:00 through HE 6:00 and HE 23:00 through HE 24:00 CPT Monday through Sunday.

6. CUSTOMER PROTECTION RULES:

To the extent permitted by law, Buyer hereby waives its rights set forth in the Customer Protection Rules enacted by the Public Utility Commission of Texas (Texas Substantive Rules, Section 25.471, et seg.).

As supplemented by this Addendum including its Schedules, if any, all other Terms and Conditions contained in the Agreement remain in full force and effect.

This Addendum is	subject to the Schedule(s) identified below:
CALPINE ENERGY SOLUTIONS, LLC	LANCIUM LLC
Sign:	Sign:
Print:	Print:
Title:	Title:

From: Todd Wilson < Todd. Wilson@calpinesolutions.com>

To: Michael McNamara <michael.mcnamara@lancium.com>, Raymond Cline

<recline@lancium.com>

CC: Rachel Arndt <rachel.arndt@lancium.com>, ian.rock <ian.rock@lancium.com>

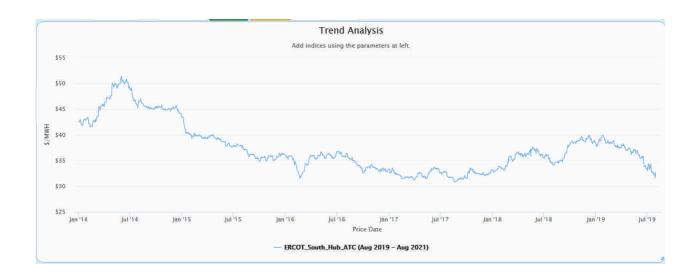
Subject: RE: Calpine forecast for CP days **Date:** Mon, 5 Aug 2019 22:04:12 +0000

Inline-Images: image001.png

Michael,

Your contract is currently on month to month, which is index pricing. Jon wanted to look at a 2 year fixed pricing for your load given how close we are to all time historical lows in ERCOT South. Pricing below is for 2 years starting August 1.

I was arranging Jon to speak with our credit department to get an update on our original credit approval....need to take care of this if you want to look at locking in this low price for 24 months. Current pricing is \$32.08. Let me know what you would like to do.



Best Regards,

Todd

Bearbox v Lancium
Trial Exhibit
TX758

Todd Wilson Cell: (919) 414-7986

From: Michael McNamara [mailto:michael.mcnamara@lancium.com]

Sent: Monday, August 5, 2019 4:17 PM **To:** Raymond Cline <recline@lancium.com>

Cc: Rachel Arndt <rachel.arndt@lancium.com>; ian.rock <ian.rock@lancium.com>; Todd Wilson

<Todd.Wilson@calpinesolutions.com>
Subject: Re: Calpine forecast for CP days

External Sender: Use caution with links/attachments.

Hello Todd,

Jon Cohen is no longer with Lancium. Could you please be sure to send all relevant information to everyone on this email instead?

Feel free to give me a call anytime.

Best Regards, Michael

On Mon, Aug 5, 2019 at 5:15 PM Raymond Cline < recline@lancium.com > wrote:

All,

Has anyone received the Calpine forecast for CP days for this week? If so, could you please forward it? We are trying to manage power usage appropriately, but I'd like to know if we are looking at higher demands later in the week.

Cheers, Ray

Raymond E. Cline Jr., PhD Chief Computing Officer

--

(917) 833-2720

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From: Todd Wilson < Todd. Wilson@calpinesolutions.com>

To: "Michael McNamara " < michael.mcnamara@lancium.com >

Subject: Weighted Average Cost of Energy (WACOE) - if you fix power at \$33 and sell back at

any price over \$100.

Date: Tue, 6 Aug 2019 19:51:10 +0000

Attachments: Lancium Sellback Sensitivity Analysis.xlsx

Inline-Images: image001.png

Michael,

Results of the look-back are impressive...reduce your WACOE by \$10.53 per megawatt hour

Best Regards,

Todd

Todd R. Wilson, CEM

Sales Director, Calpine Energy Solutions

Cell: 919-414-7986

E-Mail: todd.wilson@calpinesolutions.com



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Trial Exhibit
TX763

Lancium Hypothetical Invoice

- \$ 33.00 Contract Price
 - 2,928 Contract MWh June July 2019
- \$ 96,624 Original Invoice
 - 86 Sellback MWh
- \$ (32,761) Sellback Value
- \$ 63,863 Revised Invoice
- \$ 22.47 Revised WACOE
- \$ 10.53 WACOE improvement (detriment)

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AD	200 200 200 200 200 200 200 200	2,000
AC	100 100 100 100 100 100 100 100	2,000
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From: Michael McNamara <michael.mcnamara@lancium.com>

To: Eric Kutscha <eric.kutscha@lancium.com>, Jon Cohen <jon.cohen@lancium.com>,

Raymond Cline < recline@lancium.com>

Subject: Fwd: BearBox 20' product details and supporting documentation

Date: Thu, 09 May 2019 11:35:32 -0500

Importance: Normal

Attachments: BearBox Product Details Summary v1.pdf; Permatron Spec Sheet.pdf;

CamFil Spec Sheet.pdf; JandD Spec Sheet.pdf; exelon4 modeling 05092019.xlsx

We met this guy at the fidelity conference. He seemed very competent. His box seems very expensive though.

----- Forwarded message -----

From: **Austin Storms** < <u>austin@bearbox.io</u>> Date: Thu, May 9, 2019 at 9:32 AM

Subject: BearBox 20' product details and supporting documentation

To: <michael.mcnamara@lancium.com>

Hey Michael,

See attached for the 20' BearBox product details and some supporting docs. I've also attached some recent modeling data from one of the Exelon wind sites (based on publicly available marketplace data) - I can model for any pricing node you guys might be interested in reviewing.

Let me know if you have any questions!

Talk soon,

A

Austin M. Storms BearBox, LLC 611 O' Keefe Avenue New Orleans, LA 70113 austin@bearbox.io

CONFIDENTIALITY NOTICE: This email communication may contain private, confidential, or legally privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all attachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.

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(917) 833-2720

Bearbox v Lancium Trial Exhibit **TX770**

200.0

226.5

Box 1 Total Capex (Estimated)



PRIVATE AND CONFIDENTIAL

BOX 'D1' CAPITAL SPEND

Status of Demo Box 1 spending plan

- however the design spec did not include fire ▶ Box 1 capex to date is below our forecast, suppression and evaporative cooling
- switchgear) which is not reflected in the cost Field deployment will also require spending on electrical equipment (transformer, to date A
- ➤ On an "apples to apples" basis, Box 1 would likely come in at around \$230k, within 10-15% of our forecast
- ➤ We expect the next generation design to come in at xx – xxx / box

Box 1 Capex (In thousands)	9/30/18 Actual	Forecast
JV Driver	87.7	
Ready Engineering (Electrical design)	73.7	
Shipping	5.1	
Total Box 1 Capex to Date	166.5	
JV Driver final invoice	15.0	
Fire Suppression	25.0	
Transformers / Switchgear	20.0	
Estimated Remaining Spend	0.09	



BearBox 20' product details and supporting documentation

From: Austin Storms <austin@bearbox.io>
To: michael.mcnamara@lancium.com
Date: Thu, 09 May 2019 11:32:01 -0500

Attachments: BearBox Product Details Summary v1.pdf (708.12 kB); Permatron_Spec_Sheet.pdf (1.23 MB);

CamFil_Spec_Sheet.pdf (379.28 kB); JandD_Spec_Sheet.pdf (2.11 MB);

exelon4 modeling 05092019.xlsx (92.14 kB)

Hey Michael,

See attached for the 20' BearBox product details and some supporting docs. I've also attached some recent modeling data from one of the Exelon wind sites (based on publicly available marketplace data) - I can model for any pricing node you guys might be interested in reviewing.

Let me know if you have any questions!

Talk soon,

Α

Austin M. Storms BearBox, LLC 611 O' Keefe Avenue New Orleans, LA 70113 austin@bearbox.io

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Bearbox v Lancium
Trial Exhibit
TX887



Bear Box

Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar)

Physical Dimensions

- o Exterior: 20'L x 8' W x 8'6"H
- o Interior: 19'4"L x 7'8"W x 7'9"H
- o Door Opening: 7'8"W x 7'5"H
- O Weight: 4,900 lbs. + installed equipment

• Electrical System

- o 3-Phase, 4-Wire 415Y/240v
- o Remote dual-outlet control PDUs (64.8kW total)
- All network infrastructure on UPS/battery backup
- o ~373kW max load

Physical Rack System

- o Custom laser cut aluminum frame with stainless wire deck shelving
- Adjustable in 1" increments

Cooling System

- o Convection air cooled
- o (8) 10,100 CFM direct-drive, single-phase exhaust fans (see attached)
- o Temperature controlled/software automation, remote on/off

Air Filtration System

- Option 1: Permatron Model U2 (see attached)
- Option 2: Camfil V-Bank Glide/Pack (see attached)
- o Intake-side adjustable pitch weather shield

• Total Designed Hashrate

- o 272 miners @ 14.5 TH/s each
- o 3.9 PH/s total

Network

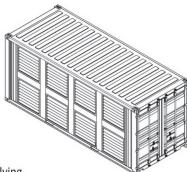
- Cat5e ethernet
- 48-port unmanaged switches (CISCO, TP-Link, or other)
- o On-site WAN or satellite (varies by location)

• Software Management

- o Local cgminer watchdog
- PostgreSQL database miner logging
- PDU/relay mapping (full automation)
- Optional real-time breakeven monitoring (renewable marketplace data)
- SMTP email alerts (restart, reboot, and maintenance required)

Summary

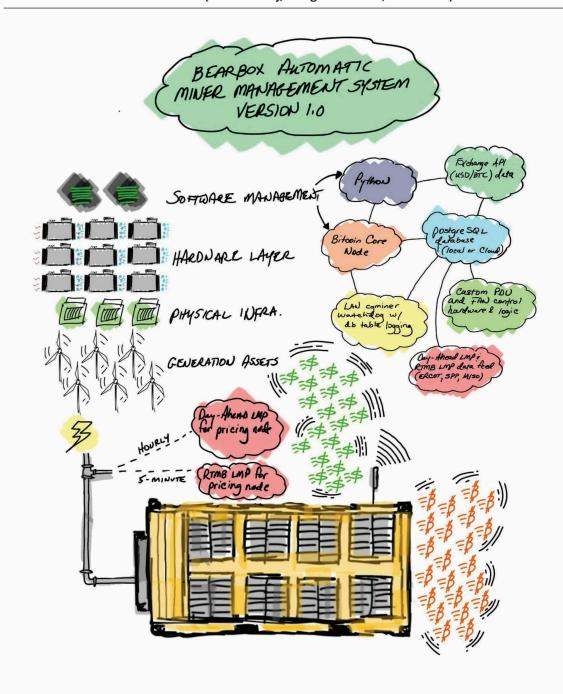
- o BearBox V20S (3.9 PH/s @ ~373kW max load)
- o Does **NOT** include miners or exterior electrical infrastructure (transformer)
- Price \$86,791.51 (\$94,766.33 after 9.2% sales tax)







Product details - BearBox V20S (Bitmain S9j, Dragonmint T1, or similar) - cont.





PreVent® Model U/BHA Flexible Frame Air Intake Filter

Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of dirt and debris can cause. Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

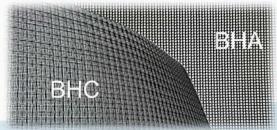
Model BHA filter is constructed of black PVC coated polyester high abrasion media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model BHA contains one layer of media.

- Can be affixed to unit with hook/loop stripping, grommets with mount clips, elastic bungee hooks or magnetic stripping
- · Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folded to 1-1/4") is standard for flexible filters 0-2000 square inches
- · Sonic welded edges also available as frame option
- UV protected black media
- U/L Classified as to Flammability Only
- 5 Year Warranty





Magnetic stripping inside vinyl edge available for easy installation.



<u>884 (177 </u>			
	<u>U1</u>	<u>U2</u>	<u>BHA</u>
Avg. Arrestance Efficiency	42%	72%	N/A
Dust Holding Capacity	67 gm.	100 gm	N/A
Initial Air Flow Resistance	0.02" w.g.	0.05" w.g.	0.02" w.g.

www.permatron.com 1-800-882-8012

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LIT-PREVENTMODELU/BHA

Filter Frames & Housings

Housings (ASHRAE)

V-Bank Glide/Pack®



Advantages

- V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy
- Increases life of filters up to four times

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors,

UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be

operated to 625 fpm. Standard model operational to \pm 6.0" w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

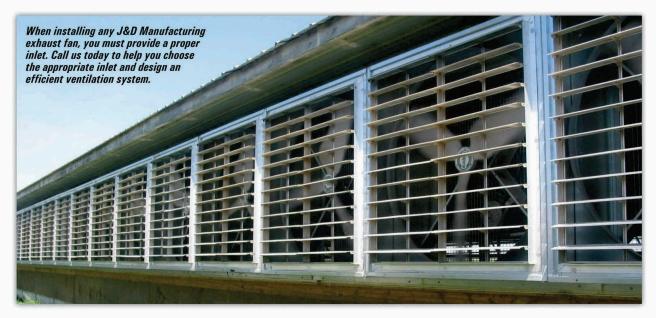
Number of filters wide		1/2 Filter wide	1 Filter wide	1-½ Filters wide	2 Filters wide	2-1/2 Filters wide	3 Filters wide	3-½ Filters wide	4 Filters wide	4-½ Filters wide	5 Filters wide	5-½ Filters wide	6 Filters wide	Housing depth (inches)
1/2	15.25	1=	2,000	1=	4,000	-	6,000	-	8,000	=:	10,000	-	12,000	
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50		6,000	:e=	12,000	-	18,000	-	24,000	# 0	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	20.00
2-1/2	63.75	12	10,000	1=	20,000	~	30,000	~	40,000	₩:	50,000	~	60,000	28.00
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00		14,000		28,000	~	42,000	-	54,000	*	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
	Width (inches)	12	24	36	10	60	72	Q/I	96	108	120	122	1///	



Total System Solutions

Wall Master Exhaust Fan

J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.



Features

- Available in 36" and 50" models
- · Heavy duty 18 gauge galvanized housing
- · Rugged X-frame for added stability on belt drive models
- Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- Lifetime Warranty on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a **Three Year Warranty**
- Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a Two Year Warranty



▲WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

Wall Master Exhaust Fan



Heavy-duty X-frame - (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.



Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

				@0.05	S" SP			
					CFM/			
Part#	Size	Phs	Spd	CFM	Watt	Drive	Prop	
Single Phase								
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv	
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv	
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv	
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv	
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv	
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv	
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA	
Three Phase								
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv	
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv	
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv	
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv	
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA	
OSHA requires these fans to be mounted 7' above the floor								

www.jdmfg.com | jdmfg@jdmfg.com |

Fan Size	Rough Opening				
36"	41"W x 41"H				
50"	54¾"W x 54¾"H				

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.

Wall Master Fan Size	Weather Hood Part#
36"	VFT140860
50"	VFT140861

F:1-888-972-4454

△WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

P:1-800-998-2398

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12 5698.51 574871 0.08672 5/6/19 12:28 0.0319112 0.9873325 4.9049E+13 13 5705.99 574875 0.0875317 5/6/19 13:07 0.0316965 0.9806897 4.86579E+13 14 5706.72 574875 0.0875429 5/6/19 13:11 0.0316965 0.9806897 4.86579E+13 15 5702.01 574875 0.0874707 5/6/19 13:16 0.0316965 0.9806897 4.86579E+13 16 5703.44 574876 0.0881359 5/6/19 13:21 0.0316965 0.9806897 4.83028E+13 17 5706.85 574876 0.0881753 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5726.52 574876 0.088496 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0885064 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 </td <td>2.642871 2.6676082 2.6679495 2.6657475 2.6860221</td> <td>6.70217E+12 6.70217E+12</td> <td></td> <td></td> <td></td>	2.642871 2.6676082 2.6679495 2.6657475 2.6860221	6.70217E+12 6.70217E+12			
13 5705.99 574875 0.0875317 5/6/19 13:07 0.0316965 0.9806897 4.86579E+13 14 5706.72 574875 0.0875429 5/6/19 13:11 0.0316965 0.9806897 4.86579E+13 15 5702.01 574875 0.087470 5/6/19 13:16 0.0316965 0.9806897 4.86579E+13 16 5703.44 574876 0.0881359 5/6/19 13:21 0.0316965 0.9806897 4.83028E+13 17 5705.99 574876 0.0881385 5/6/19 13:26 0.0316965 0.9806897 4.83028E+13 18 5706.85 574876 0.0881885 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5726.52 574876 0.0884926 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0886086 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13	2.6676082 2.6679495 2.6657475 2.6860221	6.70217E+12	0.020030	0.8364938	
14 5706.72 574875 0.0875429 5/6/19 13:11 0.0316965 0.9806897 4.86579E+13 15 5702.01 574875 0.0874707 5/6/19 13:16 0.0316965 0.9806897 4.86579E+13 16 5703.44 574876 0.0881359 5/6/19 13:21 0.0316965 0.9806897 4.83028E+13 17 5705.99 574876 0.0881753 5/6/19 13:26 0.0316965 0.9806897 4.83028E+13 18 5706.85 574876 0.0881866 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5725.52 574876 0.0882966 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13	2.6679495 2.6657475 2.6860221		0.0297482	0.8241178 0.9204093	
15 5702.01 574875 0.0874707 5/6/19 13:16 0.0316965 0.9806897 4.86579E+13 16 5703.44 574876 0.0881359 5/6/19 13:21 0.0316965 0.9806897 4.83028E+13 17 5705.99 574876 0.0881753 5/6/19 13:26 0.0316965 0.9806897 4.83028E+13 18 5706.85 574876 0.0881886 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5725.52 574876 0.0884926 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13	2.6657475 2.6860221	0.70217112	0.0283545	0.8772882	
16 5703.44 574876 0.0881359 5/6/19 13:21 0.0316965 0.9806897 4.83028E+13 17 5705.99 574876 0.0881753 5/6/19 13:26 0.0316965 0.9806897 4.83028E+13 18 5706.85 574876 0.0881886 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5726.52 574876 0.0884926 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13	2.6860221	6.70217E+12	0.0263671	0.8157981	
17 5705.99 574876 0.0881753 5/6/19 13:26 0.0316965 0.9806897 4.83028E+13 18 5706.85 574876 0.0881886 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5726.52 574876 0.0884926 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13		6.70217E+12	0.027458	0.8495505	
18 5706.85 574876 0.0881886 5/6/19 13:31 0.0316965 0.9806897 4.83028E+13 19 5726.52 574876 0.0884926 5/6/19 13:36 0.0316965 0.9806897 4.83028E+13 20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13		6.70217E+12	0.0295297	0.9136489	
20 5727.41 574876 0.0885064 5/6/19 13:41 0.0316965 0.9806897 4.83028E+13 21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13		6.70217E+12	0.029437	0.9107808	
21 5742.95 574876 0.0887465 5/6/19 13:46 0.0316965 0.9806897 4.83028E+13 22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13	2.6968915	6.70217E+12	0.0294468	0.911084	2.6968915
22 5734.03 574876 0.0886086 5/6/19 13:51 0.0316965 0.9806897 4.83028E+13	2.6973107	6.70217E+12	0.0291977	0.9033768	3 2.6973107
	2.7046292	6.70217E+12	0.0461903	1.4291279	2.7046292
23 5731.45 574876 0.0885688 5/6/19 13:56 0.0316965 0.9806897 4.83028E+13	2.7004284	6.70217E+12	0.0300478	0.9296789	2.7004284
	2.6992133	6.70217E+12	0.023358	0.7226965	2.6992133
		6.70217E+12	0.0252541	0.7813619	
		6.70217E+12	0.022385	0.6925919	
		6.70217E+12	0.0278815	0.8626536	
		6.70217E+12	0.0276273	0.8547887	
		6.70217E+12	0.0401146	1.2411457	
		6.70217E+12 6.70217E+12	0.0357633	1.1065165	
		6.70217E+12 6.70217E+12	0.0216376 0.0206897	0.6694673 0.6401393	
		6.70217E+12 6.70217E+12	0.0206897	0.6569243	
		6.70217E+12	0.0212322	0.6647119	
		6.70217E+12	0.0214833	0.6587776	
		6.70217E+12	0.020696	0.6403342	
		6.70217E+12	0.0203623	0.6300096	
		6.70217E+12	0.0198016	0.6126615	
38 5724.73 574886 0.0885552 5/6/19 15:12 0.0212846 0.6585455 4.82535E+13	2.6988006	6.70217E+12	0.0190006	0.5878786	2.6988006
39 5709.73 574886 0.0883232 5/6/19 15:17 0.0212846 0.6585455 4.82535E+13	2.6917292	6.70217E+12	0.0184907	0.5721023	2.6917292
	2.6936119	6.70217E+12	0.023136	0.7158278	2.6936119
	2.6620299	6.70217E+12	0.0165815	0.5130316	2.6620299
	2.5377429	6.70217E+12	0.0157946	0.4886849	
		6.70217E+12	0.0722406	2.2351242	
		6.70217E+12	0.025128	0.7774603	
		6.70217E+12	0.0141482	0.4377453	
		6.70217E+12	0.0158794	0.4913086	
47 5700.01 574895 0.0825354 5/6/19 15:57 0.0212846 0.6585455 5.15494E+13 48 5696.94 574897 0.0824036 5/6/19 16:02 0.0282033 0.8726101 5.16041E+13		6.70217E+12 6.70217E+12	0.0142467 0.0193804	0.4407929 0.5996296	
		6.70217E+12	0.0193804	0.3996296	
50 5684.53 574897 0.0822241 5/6/19 16:12 0.0282033 0.8726101 5.16041E+13		6.70217E+12	0.0157287	0.486646	
		6.70217E+12	0.0162324	0.5022305	
		6.70217E+12	0.0157041	0.4858849	
		6.70217E+12	0.0148626	0.4598488	
	2.5294123	6.70217E+12	0.0141661	0.4382991	
	2.5309305	6.70217E+12	0.0039202	0.121291	2.5309305
	2.5285442	6.70217E+12	0.0059038	0.1826636	2.5285442
		6.70217E+12	0.0056964	0.1762466	
		6.70217E+12	0.0098804	0.3056996	
	2.5331438	6.70217E+12	0.0072672	0.2248472	
		6.70217E+12	0.0100674	0.3114854	
		6.70217E+12	0.0086099	0.2663903	
		6.70217E+12	0.0053846		
63 5694.8 574907 0.0809439 5/6/19 17:18 0.0245371 0.7591779 5.25149E+13 64 5695.29 574907 0.0809509 5/6/19 17:23 0.0245371 0.7591779 5.25149E+13		6.70217E+12 6.70217E+12	0.0017196 0.0048459	0.0532044 0.1499321	
		6.70217E+12 6.70217E+12	0.0048459	0.2229103	
		6.70217E+12	0.0072046	0.5358437	
		6.70217E+12	0.0173168	0.3340499	
		6.70217E+12	0.0175668	0.5435168	
		6.70217E+12	0.0040943	0.1266776	
70 5698.01 574909 0.0821371 5/6/19 17:53 0.0245371 0.7591779 5.17812E+13		6.70217E+12	0.0062052	0.1919889	
71 5704.79 574909 0.0822348 5/6/19 17:59 0.0245371 0.7591779 5.17812E+13		6.70217E+12	0.0060673	0.1877223	
72 5706.81 574909 0.0822639 5/6/19 18:04 0.0188872 0.58437 5.17812E+13		6.70217E+12	0.004964	0.1535862	
		6.70217E+12	0.0096617	0.298933	
		6.70217E+12	0.0094749	0.2931534	
		6.70217E+12	0.0097717	0.3023364	
		6.70217E+12	0.0113155	0.3501016	
		6.70217E+12	-0.0060949	-0.1885762	
		6.70217E+12	0.0003233	0.0100029	
79 5698.15 574912 0.0833531 5/6/19 18:39 0.0188872 0.58437 5.1027E+13		6.70217E+12	0.0028852	0.0892681	
		6.70217E+12	0.0066411	0.2054756	
		6.70217E+12 6.70217E+12	0.0059357	0.1836506	
		6.70217E+12 6.70217E+12	-0.0011344	-0.0350983 0.0058941	
		6.70217E+12 6.70217E+12	0.0001905 0.0002833	0.0058941	
		6.70217E+12 6.70217E+12	0.0002833	0.0786062	
		6.70217E+12 6.70217E+12	0.0025406	0.0508932	
		6.70217E+12	0.0016449	0.1274047	
88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13		6.70217E+12	-0.000019	-0.0005879	
1001 27302 274323 0.0020040 37071313.74 0.0133103 0.5476403 5.71040E413		6.70217E+12	-0.0002028	-0.0062746	
			0.0002329	0.007144	
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13		6.70217E+12		=	
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13	2.5022793	6.70217E+12 6.70217E+12	0.0130869	0.4049087	2.5006204
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 91 5727.94 574915 0.0820524 5/6/19 19:40 0.0193163 0.5976463 5.21069E+13	2.5022793 2.5006204			0.4049087 0.3803547	
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 91 5727.94 574915 0.0820524 5/6/19 19:40 0.0193163 0.5976463 5.21069E+13 92 5741.23 574915 0.0822428 5/6/19 19:45 0.0193163 0.5976463 5.21069E+13	2.5022793 2.5006204 2.5064223	6.70217E+12	0.0130869		2.5064223
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 91 5727.94 574915 0.0820524 5/6/19 19:40 0.0193163 0.5976463 5.21069E+13 92 5741.23 574915 0.0822428 5/6/19 19:45 0.0193163 0.5976463 5.21069E+13 93 5740.52 574915 0.0822326 5/6/19 19:50 0.0193163 0.5976463 5.21069E+13	2.5022793 2.5006204 2.5064223 2.5061123	6.70217E+12 6.70217E+12	0.0130869 0.0122933	0.3803547	7 2.5064223 2.5061123

\Box	Α	В	С	D	E	F	G	Н			К	
96	5763.99	574916		5/6/19 20:05	0.0241251	0.7464306	4.9508E+13	2.6484528	6.70217E+12	-0.0003708	-0.0114726	2.6484528
97	5769.68	574916		5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917	0.0882187	5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085	5/6/19 20:20	0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1	574917		5/6/19 20:25	0.0241251	0.7464306	4.88133E+13	2.6815363	6.70217E+12	-0.0161407	-0.4993933	2.6815363
101	5771.1	574917		5/6/19 20:30	0.0241251	0.7464306	4.88133E+13	2.6894587	6.70217E+12	-0.0174708	-0.5405466	2.6894587
102	5764.05	574918		5/6/19 20:35	0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0175085	-0.541713	2.714756
103	5752.2	574918		5/6/19 20:40	0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749
104 105	5755.49 5762.02	574918 574919		5/6/19 20:45 5/6/19 20:50	0.0241251 0.0241251	0.7464306 0.7464306	4.82994E+13 4.76774E+13	2.7107244 2.7492027	6.70217E+12 6.70217E+12	-0.0004318 0.0004104	-0.0133599 0.0126978	2.7107244 2.7492027
106	5760.7	574919		5/6/19 20:55	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	-0.0009508	-0.0294178	2.7492027
107	5762.49	374313		5/6/19 21:02	0.0175071	0.5416697	4.76774E+13	2.749427	0.702172.12	0.0007073	0.0218839	2.749427
108	5774.99	574920		5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922		5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110	5844.99	574922	0.1031216	5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
111	5844.99	574922	0.1031216	5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99	574922		5/6/19 21:45	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
113	5843.89	574923		5/6/19 21:52	0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923		5/6/19 21:57	0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925		5/6/19 22:02	0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116 117	5924.06 5904.4	574925 574925		5/6/19 22:07 5/6/19 22:15	0.0137884 0.0137884	0.4129166 0.4129166	4.61118E+13 4.61118E+13	3.1193265 3.1089744	6.70217E+12 6.70217E+12	-0.0183554 -0.0038279	-0.549683 -0.1146328	3.1193265 3.1089744
118	5904.4	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121	5906.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
122	5906.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
123	5900.68	574927		5/6/19 22:23	0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929		5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126	5898.4	574930		5/6/19 22:35	0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
127	5893.05	574930		5/6/19 22:37	0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
128	5897.36	574930 574921		5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
129 130	5899.22 5901.5	574931 574931		5/6/19 22:47 5/6/19 22:52	0.0137884 0.0137884	0.4129166 0.4129166	4.70181E+13 4.70181E+13	3.046371 3.0475484	6.70217E+12 6.70217E+12	-0.0155618 -0.0215767	-0.466024 -0.6461502	3.046371 3.0475484
131	5895.01	574931		5/6/19 22:52	0.0137884	0.4129166	4.70181E+13 4.71645E+13	3.04/5484	6.70217E+12 6.70217E+12	-0.0215767	-0.5657075	3.0475484
132	5882.85	574943	0.1028817	5/7/19 0:02	0.0037884	0.2946243	4.8263E+13	2.9595589	6.70217E+12	-0.0188903	-0.0794186	2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
136	5911.06	574944	0.102273	5/7/19 0:22	0.0098383	0.2946243	4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
137	5885.39	574945	0.1028414	5/7/19 0:27	0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455	5/7/19 0:37	0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140 141	5898.51	574945	0.1030707	5/7/19 0:42	0.0098383	0.2946243	4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
141	5901.99 5889.59	574945 574946	0.1031315 0.1043197	5/7/19 0:47 5/7/19 0:52	0.0098383 0.0098383	0.2946243 0.2946243	4.71059E+13 4.64716E+13	3.0421181 3.0771656	6.70217E+12 6.70217E+12	0.0002217 -0.0026672	0.0066392 -0.0798737	3.0421181 3.0771656
143	5889.01	574947	0.1043137	5/7/19 0:57	0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0020072	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	5/7/19 1:02	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
145	5889.43	574948	0.1042298	5/7/19 1:07	0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
146	5887.99	574948	0.1042043	5/7/19 1:12	0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
147	5867.4	574948	0.1038399	5/7/19 1:17	0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24	574950	0.1041975	5/7/19 1:27	0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
150	5870.35	574950	0.1041817	5/7/19 1:32	0.0105202	0.3150449		3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
151	5880.51	574950	0.104362	5/7/19 1:37	0.0105202	0.3150449	4.63811E+13	3.0784149 3.1155019	6.70217E+12 6.70217E+12	0.0114298	0.3422844	3.0784149 3.1155019
152 153	5887.56 5888.94	574951 574951	0.1056193 0.1056441	5/7/19 1:42 5/7/19 1:47	0.0105202 0.0105202	0.3150449 0.3150449	4.58839E+13 4.58839E+13	3.1155019	6.70217E+12 6.70217E+12	0.0158031 0.0139082	0.4732502 0.4165042	3.1155019
154	5890.07	574951	0.1056643	5/7/19 1:47	0.0105202	0.3150449		3.1162321	6.70217E+12	0.0139082	0.4234668	3.1162321
155	5887.93	574952		5/7/19 1:57	0.0105202	0.3150449	4.56692E+13			0.0141407	0.3867732	3.1303483
156	5879.77	574953		5/7/19 2:02	0.011378	0.3407332			6.70217E+12	0.0142018	0.4252966	3.117579
157	5880.52	574954	0.1043159		0.011378	0.3407332	4.64017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182	5/7/19 2:12	0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159	5873.6	574954	0.1041932		0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12	0.0094361	0.2825797	3.0734352
160	5871.85	574955	0.1044686		0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12	0.0088951	0.2663786	3.0815582
161	5871.01	574956	0.103617		0.011378	0.3407332		3.0564397	6.70217E+12	0.0093072	0.2787196	3.0564397
162 163	5859.85 5865.94	574956 574956	0.1034201 0.1035275		0.011378 0.011378	0.3407332	4.66391E+13 4.66391E+13	3.0506298 3.0538003	6.70217E+12 6.70217E+12	0.0120542 0.0128926	0.3609831	3.0506298 3.0538003
164	5865.94 5869.1	574956 574956	0.1035275		0.011378	0.3407332 0.3407332	4.66391E+13 4.66391E+13	3.0538003	6.70217E+12 6.70217E+12	0.0128926	0.3860904 0.4224397	3.0538003
165	5877.6	574956	0.1037333		0.011378	0.3407332	4.66391E+13	3.0598705	6.70217E+12	0.0141064	0.4231584	3.0598705
166	5877.18	574957	0.1057538		0.011378	0.3407332	4.57448E+13	3.1194692	6.70217E+12	0.0141067	0.4224486	3.1194692
167	5885.01	574958	0.1054291		0.011378	0.3407332	4.59468E+13	3.1098919	6.70217E+12	0.0188926	0.5657704	3.1098919
168	5882.93	574959	0.1056834		0.0110606	0.3312281	4.582E+13	3.1173937	6.70217E+12	0.0159616	0.4779967	3.1173937
169	5880.11	574959	0.1056328		0.0110606	0.3312281	4.582E+13	3.1158994	6.70217E+12	0.0162983	0.4880798	3.1158994
170	5876.76	574959	0.1055726		0.0110606	0.3312281	4.582E+13	3.1141242	6.70217E+12	0.0123771	0.3706529	3.1141242
171	5875.44	574959	0.1055489		0.0110606	0.3312281	4.582E+13	3.1134247	6.70217E+12	0.0104838	0.3139549	3.1134247
172	5868.65	574959	0.1054269	5/7/19 3:22	0.0110606	0.3312281		3.1098266	6.70217E+12	0.0135372	0.405394	3.1098266
173 174	5871.6 5871.6	574959 574959	0.1054799 0.1054799	5/7/19 3:27 5/7/19 3:32	0.0110606 0.0110606	0.3312281 0.3312281	4.582E+13 4.582E+13	3.1113899 3.1113899	6.70217E+12 6.70217E+12	0.0142273 0.0143862	0.4260602 0.4308187	3.1113899 3.1113899
175	5871.6	574959 574959	0.1054799		0.0110606	0.3312281		3.1113899	6.70217E+12 6.70217E+12	0.0143862	0.4308187	3.1113899
176	5876.48	574959	0.1055676		0.0110606	0.3312281		3.1139758	6.70217E+12	0.0142710	0.425644	3.1143334
177	5868.98	574960	0.109055		0.0110606	0.3312281	4.42981E+13	3.2168461	6.70217E+12	0.0142134	0.3739889	3.2168461
178	5865.34	574960	0.1089874		0.0110606	0.3312281	4.42981E+13	3.2148509	6.70217E+12	0.0128153	0.3837755	3.2148509
179	5869.73	574961	0.1097753	5/7/19 3:57	0.0110606	0.3312281	4.40131E+13	3.2380924	6.70217E+12	0.0125425	0.3756061	3.2380924
180	5876.57	574962	0.1082718		0.0132424	0.3965657	4.46763E+13	3.1937442	6.70217E+12	0.012019	0.359929	3.1937442
181	5864.77	574962	0.1080544		0.0132424	0.3965657	4.46763E+13	3.1873313	6.70217E+12	0.0116681	0.3494207	3.1873313
182	5870.49	574963	0.1086102		0.0132424	0.3965657	4.4491E+13	3.2037267	6.70217E+12	0.012883	0.3858029	3.2037267
183	5892.85	574964	0.1086378		0.0132424	0.3965657	4.46491E+13	3.2045387	6.70217E+12	0.0113387	0.3395563	3.2045387
184	5893.36	574964	0.1086472		0.0132424	0.3965657	4.46491E+13	3.204816	6.70217E+12	0.0115719	0.3465398	3.204816
	5890.81 5894.23	574964 574965	0.1086002 0.1080396		0.0132424 0.0132424	0.3965657 0.3965657	4.46491E+13 4.49069E+13	3.2034293 3.1868941	6.70217E+12 6.70217E+12	0.0118547 0.0122344	0.3550087 0.3663795	3.2034293 3.1868941
185		J/4J0J					4.49069E+13 4.49069E+13	3.1808941		0.0122344		
186		574965	0 108119	5///19 4:3/	().()13/4/4	U,3905057						
	5898.56 5908.64	574965 574965	0.108119 0.1083037	5/7/19 4:37 5/7/19 4:42	0.0132424 0.0132424	0.3965657 0.3965657	4.49069E+13	3.1946853	6.70217E+12 6.70217E+12	0.0138738	0.4154741 0.4308726	3.1892353 3.1946853
186 187	5898.56					0.3965657 0.3965657					0.4154741 0.4308726 0.4977855	

101	A	B	C	D	E	F	G	H	6 700475 40	J	K	L
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12	0.014704	0.4403358	3.2021242
192 193	5914.74 5917.1	574966 574967	0.1087016 0.109481	5/7/19 5:02 5/7/19 5:07	0.0163996 0.0163996	0.4911134 0.4911134	4.47887E+13 4.44875E+13	3.2064231 3.2294129	6.70217E+12 6.70217E+12	0.0082133 0.0137796	0.245961 0.4126531	3.2064231 3.2294129
194	5917.1	574967	0.109481	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0157790	0.4692673	3.2268423
195	5894.35	574968	0.1093939	5/7/19 5:17	0.0163996	0.4911134	4.44873E+13	3.2284315	6.70217E+12	0.0136701	0.4386827	3.2284315
196	5898.35	574968	0.109522		0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12	0.0145908	0.4369458	3.2306223
197	5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12	0.0155564	0.4658623	3.1848344
198	5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12	0.0134736	0.4034894	3.1841275
199	5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12	0.0130804	0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12	0.0152049	0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12	0.0153738	0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021	6.70217E+12	0.0142726	0.4274168	3.1507021
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12	0.0140196	0.4198403	3.1504774
205	5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12	0.0128572	0.3850303	3.1505149
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1083283 0.1082235	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116 3.1923187	6.70217E+12	0.0169327 0.0161834	0.5070779	3.1954116
208	5883.23 5874.07	574973 574973	0.1082235	5/7/19 6:22 5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1923187	6.70217E+12 6.70217E+12		0.4846389	3.1923187
210	5873.01	574975	0.1081041		0.0219988 0.0219988	0.6587907 0.6587907	4.47469E+13 4.47185E+13	3.1887959	6.70217E+12	0.0160255 0.0161849	0.4799103 0.4846838	3.1873483 3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0161849	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1003013	6.70217E+12	0.01829	0.5477245	3.1003013
213	5883.91	574979	0.1032833	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856		0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	0.0258656	0.7745885	2.9866604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01	574989	0.0992602		0.0252156	0.7551232	4.90511E+13	2.9279253	6.70217E+12	0.0175618	0.5259174	2.9279253
226 227	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9253909 2.9428486	6.70217E+12	0.0176235 0.2076065	0.5277651	2.9253909 6.2171227
228	5907.41 5909.98	574990 574990	0.0997661 0.0998095	5/7/19 7:57 5/7/19 8:02	0.0252156 0.0276548	0.7551232 0.8281691	4.87396E+13 4.87396E+13	2.9428486	6.70217E+12 6.70217E+12	0.3509108	6.2171227 10.5086088	10.5086088
229	5885.9	574990	0.1001084		0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01	574991	0.1001084		0.0276548	0.8281691	4.83962E+13	2.9570118	6.70217E+12	0.3477068	10.4126596	10.4126596
231	5901.61	574991	0.1003756		0.0276548	0.8281691	4.83962E+13	2.9608247	6.70217E+12	0.2233212	6.6877255	6.6877255
232	5901.01	574993	0.0990295		0.0276548	0.8281691	4.9049E+13	2.9211197	6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	2.9191298	6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343	6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	2.9083554	6.70217E+12	0.0229099	0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982	6.70217E+12	0.023268	0.696799	2.9196982
237	5918.93	574994	0.0988295	5/7/19 8:47	0.0276548	0.8281691	4.92975E+13	2.9152212	6.70217E+12	0.0200853	0.6014878	2.9152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	2.9159846	6.70217E+12	0.02447	0.7327949	2.9159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	2.9514506	6.70217E+12	0.0185494	0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404	6.70217E+12	0.0182697	0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824	6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	2.8151949 2.758369	6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17 5/7/19 9:22	0.0268411	0.8038015	5.12192E+13		6.70217E+12	0.0194987	0.5839211	2.758369
244	5836.61 5852.94	574999 574999	0.0937986 0.094061	5/7/19 9:22	0.0268411 0.0268411	0.8038015 0.8038015	5.12192E+13 5.12192E+13	2.7668213 2.7745624	6.70217E+12 6.70217E+12	0.0190273 0.0201623	0.5698042 0.6037937	2.7668213 2.7745624
246	5843.39	575000	0.0949282		0.0268411	0.8038015	5.06685E+13	2.8001417	6.70217E+12	0.0201023	0.5867001	2.8001417
247	5840.9	575000	0.0948878		0.0268411	0.8038015	5.06685E+13	2.7989485	6.70217E+12	0.0208798	0.6252804	2.7989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13	2.8006448	6.70217E+12	0.0199536	0.5975438	2.8006448
249	5831.94	575001	0.0948603		0.0268411	0.8038015	5.06054E+13	2.7981392	6.70217E+12	0.0196606	0.5887694	2.7981392
250	5840.78	575003	0.0941941			0.8038015	5.10406E+13	2.7784869	6.70217E+12	0.0187964	0.5628895	2.7784869
251	5839.47	575003		5/7/19 9:57	0.0268411	0.8038015	5.10406E+13	2.7778637	6.70217E+12	0.0188057	0.563168	2.7778637
252	5836.55	575003		5/7/19 9:58	0.0268411	0.8038015	5.10406E+13		6.70217E+12	0.0188057	0.563168	2.7764747
253	5843.59	575003	0.0942394	5/7/19 10:03	0.0287164	0.8599605	5.10406E+13	2.7798236	6.70217E+12	0.0202762	0.6072046	2.7798236
254	5851.93	575003	0.0943739	5/7/19 10:08	0.0287164	0.8599605	5.10406E+13	2.783791	6.70217E+12	0.0195808	0.5863797	2.783791
255	5840.6	575003		5/7/19 10:13	0.0287164	0.8599605	5.10406E+13	2.7784013	6.70217E+12	0.0202654	0.6068812	2.7784013
256	5841.73	575003		5/7/19 10:18		0.8599605	5.10406E+13	2.7789388	6.70217E+12	0.020167	0.6039344	2.7789388
257	5837.26	575004		5/7/19 10:23	0.0287164	0.8599605	4.97383E+13	2.8495172	6.70217E+12	0.0196567	0.5886526	2.8495172
258	5843.1	575004		5/7/19 10:28		0.8599605	4.97383E+13	2.852368	6.70217E+12	0.0207215	0.6205399	2.852368
259	5843.45	575005		5/7/19 10:35		0.8599605	4.93814E+13	2.8731576	6.70217E+12	0.0201838	0.6044375	2.8731576
260	5841.01	575005		5/7/19 10:35		0.8599605	4.93814E+13	2.8719579	6.70217E+12	0.0198071	0.5931566	2.8719579
261 262	5844.02 5844.02	575005 575005		5/7/19 10:42 5/7/19 10:43		0.8599605 0.8599605	4.93814E+13 4.93814E+13	2.8734379 2.8734379	6.70217E+12 6.70217E+12	0.0200159 0.0200159	0.5994095 0.5994095	2.8734379 2.8734379
263	5844.02	575005		5/7/19 10:43	0.0287164	0.8599605	4.93814E+13 4.93814E+13	2.8734379	6.70217E+12 6.70217E+12	0.0200159	0.5994095	2.8734379
264	5843.32	575005		5/7/19 10:44		0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
265	5843.18	575005		5/7/19 10:45		0.8599605	4.93814E+13	2.8730337	6.70217E+12	0.0200133	0.6038536	2.8730337
266	5843.18	575005		5/7/19 10:46		0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
267	5843.81	575005		5/7/19 10:48		0.8599605	4.93814E+13	2.8733347	6.70217E+12	0.0201643	0.6038536	2.8733347
268	5855.01	575005		5/7/19 10:51	0.0287164	0.8599605	4.93814E+13	2.8788416	6.70217E+12	0.0202597	0.6067105	2.8788416
269	5853.18	575005		5/7/19 10:52		0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
270	5853.18	575005		5/7/19 10:53		0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
271	5854.99	575005	0.0975959	5/7/19 10:58	0.0287164	0.8599605	4.93814E+13		6.70217E+12	0.0204901	0.6136102	2.8788317
272	5855.01	575005		5/7/19 11:03		0.8189605	4.93814E+13	2.8788416	6.70217E+12	0.019272	0.5771322	2.8788416
273	5862.23	575005		5/7/19 11:08		0.8189605	4.93814E+13	2.8823916	6.70217E+12	0.0185107	0.5543338	2.8823916
274	5868.68	575005		5/7/19 11:13	0.0273473	0.8189605	4.93814E+13	2.885563	6.70217E+12	0.0182389	0.5461943	2.885563
275	5877.1	575005		5/7/19 11:18		0.8189605	4.93814E+13	2.889703	6.70217E+12	0.0175485	0.5255191	2.889703
276	5880.82	575006		5/7/19 11:23		0.8189605	4.74222E+13	3.0109929	6.70217E+12	0.0171425	0.5133607	3.0109929
277	5885.64	575007		5/7/19 11:28		0.8189605	4.76216E+13	3.000843	6.70217E+12	0.0161012	0.4821773	3.000843
278	5888.81	575007		5/7/19 11:33		0.8189605	4.76216E+13	3.0024592	6.70217E+12	0.0167836	0.5026129	3.0024592
279	5887.01	575007		5/7/19 11:38		0.8189605	4.76216E+13	3.0015415	6.70217E+12	0.017405	0.5212217	3.0015415
280	5885.87	575009		5/7/19 11:43	0.0273473	0.8189605	4.73877E+13	3.0157712	6.70217E+12	0.0181379	0.5431696	3.0157712
281	5882.45	575010		5/7/19 11:48		0.8189605	4.72115E+13	3.0252654	6.70217E+12	0.0188967	0.5658932	3.0252654
282 283	5889.31	575010		5/7/19 11:53		0.8189605	4.72115E+13	3.0287934 3.0455122	6.70217E+12 6.70217E+12	0.0191234	0.5726821	3.0287934
283	5888.74 5894.74	575011 575011		5/7/19 11:58 5/7/19 12:03		0.8189605 0.8102789	4.69478E+13 4.69478E+13	3.0455122	6.70217E+12 6.70217E+12	0.0189953 0.0201972	0.5688459 0.6048388	3.0455122 3.0486153
285	5894.74	575011		5/7/19 12:03		0.8102789	4.69478E+13	3.0486153	6.70217E+12 6.70217E+12	0.0201972	0.7370294	3.0486153
200	JUJJ./2	3.3011	0.100000	-, , , _ , _ , _ , 00	5.02/0J/T							J.J. J. J. L.

\Box	А	В	С	D	E	F	G	н			К	
286	5907.12	575011		5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013		5/7/19 12:18	0.0270574	0.8102789	4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013	0.1037867	5/7/19 12:23	0.0270574	0.8102789	4.67609E+13	3.0614459	6.70217E+12	0.0163821	0.4905893	3.0614459
289	5898.02	575014		5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014		5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291 292	5887.34 5889.4	575016 575016		5/7/19 12:37 5/7/19 12:42	0.0270574 0.0270574	0.8102789 0.8102789	4.65141E+13 4.65141E+13	3.0731761 3.0742514	6.70217E+12 6.70217E+12	0.0200409 0.0215114	0.6001582 0.6441947	3.0731761 3.0742514
293	5893.65	575016		5/7/19 12:47	0.0270574	0.8102789	4.65141E+13	3.0764699	6.70217E+12	0.0213114	0.6272329	3.0764699
294	5893.83	575018		5/7/19 12:52	0.0270574	0.8102789	4.69465E+13	3.0482275	6.70217E+12	0.0215906	0.6465665	3.0482275
295	5890.09	575018		5/7/19 12:57	0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339	5/7/19 13:02	0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018		5/7/19 13:07	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298 299	5880.76	575018		5/7/19 13:12	0.0260477	0.7800418	4.69465E+13	3.0414678	6.70217E+12 6.70217E+12	0.0158291	0.4740288	3.0414678
300	5885.01 5886.65	575018 575019		5/7/19 13:17 5/7/19 13:22	0.0260477 0.0260477	0.7800418 0.7800418	4.69465E+13 4.60663E+13	3.0436659 3.10269	6.70217E+12 6.70217E+12	0.0156969 0.0194576	0.4700698 0.5826903	3.0436659 3.10269
301	5886.81	575019		5/7/19 13:27	0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019		5/7/19 13:32	0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019		5/7/19 13:37	0.0260477	0.7800418	4.60663E+13	3.0985841	6.70217E+12	0.4823059	14.443454	14.443454
304	5879.94	575019		5/7/19 13:42	0.0260477	0.7800418	4.60663E+13	3.0991534	6.70217E+12	0.1343145	4.0222716	4.0222716
305	5872.78	575020		5/7/19 13:47	0.0260477	0.7800418	4.57872E+13	3.1142442	6.70217E+12	0.0287544	0.8610984	3.1142442
306 307	5868.57	575020		5/7/19 13:52	0.0260477	0.7800418	4.57872E+13	3.1120117	6.70217E+12 6.70217E+12	0.0442637	1.3255503	3.1120117
308	5877.6 5880.3	575020 575021		5/7/19 13:57 5/7/19 14:02	0.0260477 0.025584	0.7800418 0.7661555	4.57872E+13 4.52279E+13	3.1168002 3.156795	6.70217E+12 6.70217E+12	0.0156508 0.0212368	0.4686893 0.6359714	3.1168002 3.156795
309	5873.1	575021		5/7/19 14:07	0.025584	0.7661555	4.52279E+13	3.1529297	6.70217E+12	0.0212308	0.4049568	3.1529297
310	5856.76	575021		5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1441577	6.70217E+12	0.0161145	0.4825756	3.1441577
311	5835.32	575021		5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021		5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314	5844.51	575021		5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
315 316	5852.73 5842.59	575022 575022		5/7/19 14:37 5/7/19 14:42	0.025584	0.7661555 0.7661555	4.41871E+13 4.41871E+13	3.2160024 3.2104306	6.70217E+12 6.70217E+12	0.0160534 0.0139152	0.4807458 0.4167139	3.2160024 3.2104306
317	5842.59 5844.51	575022		5/7/19 14:42	0.025584 0.025584	0.7661555	4.418/1E+13 4.39963E+13	3.225412	6.70217E+12 6.70217E+12	0.0139152	0.4167139	3.2104306
318	5842.77	575023		5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319	5843.27	575023		5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
320	5849.85	575023		5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.004172	0.1249375	3.228359
321	5844.11	575023		5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023		5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12 6.70217E+12	0.0074128	0.2219887	3.2222001
323 324	5843.57 5844.59	575023 575023		5/7/19 15:17 5/7/19 15:22	0.0200751 0.0200751	0.6011823 0.6011823	4.39963E+13 4.39963E+13	3.2248932 3.2254562	6.70217E+12 6.70217E+12	0.0068169 0.0173942	0.2041434 0.5208983	3.2248932 3.2254562
325	5849.99	575023	0.1094479		0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
326	5849.99	575023		5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023		5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329	5871.48	575024		5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
330 331	5859.1 5854.1	575024 575025		5/7/19 15:52 5/7/19 15:57	0.0200751 0.0200751	0.6011823 0.6011823	4.22289E+13 4.21197E+13	3.368792 3.3746406	6.70217E+12 6.70217E+12	0.0085437 0.0200752	0.2558553 0.6011853	3.368792 3.3746406
332	5843.22	575025		5/7/19 16:02	0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
333	5853.43	575026		5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
334	5856.16	575026	0.1147531	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
335	5854.02	575026		5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
336	5850.81	575026		5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027		5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.4318944 3.4142287	6.70217E+12	0.0156102	0.4674735	3.4318944
338 339	5855.8 5856.74	575028 575029		5/7/19 16:32 5/7/19 16:37	0.0216225 0.0216225	0.6475218 0.6475218	4.16435E+13 4.21846E+13	3.4142287	6.70217E+12 6.70217E+12	0.0163249 0.0175314	0.4888763 0.525007	3.4142287 3.3709755
340	5868.02	575029		5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0173314	0.4524881	3.3774679
341	5872.51	575029		5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
343	5880.77	575029		5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
344	5886.53	575029		5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
345 346	5889.98 5885.6	575029 575031		5/7/19 17:07	0.0204922 0.0204922	0.6136731 0.6136731	4.21846E+13 4.22212F+13			0.0028472	0.0852641 0.332995	3.3901075 3.3846492
347	5883.88	575031		5/7/19 17:12 5/7/19 17:17	0.0204922	0.6136731	4.22212E+13 4.23148E+13	3.3761744	0.702172.12	0.0111196	0.5906411	3.3761744
348	5871.02	575032		5/7/19 17:22	0.0204922	0.6136731	4.23698E+13		6.70217E+12	0.0137231	0.4123955	3.364421
349	5872.05	575033		5/7/19 17:27	0.0204922	0.6136731	4.23698E+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
350	5878.77	575034		5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
351	5877.4	575034		5/7/19 17:37	0.0204922	0.6136731		3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
352	5880.39	575034		5/7/19 17:42	0.0204922	0.6136731	4.21856E+13	3.3845051 3.3796646	6.70217E+12	0.0171643	0.5140136	3.3845051
353 354	5871.98 5878.4	575034 575035		5/7/19 17:47 5/7/19 17:52	0.0204922 0.0204922	0.6136731 0.6136731	4.21856E+13 4.18797E+13	3.4080684	6.70217E+12 6.70217E+12	0.0179472 0.0182428	0.5374588 0.5463111	3.3796646 3.4080684
355	5886.62	575035		5/7/19 17:57	0.0204922	0.6136731	4.18797E+13	3.4128341	6.70217E+12	0.0182428	0.8406568	3.4128341
356	5896.23	575036		5/7/19 18:02	0.0194272	0.5817799	4.33372E+13	3.3034392	6.70217E+12	0.4423178	13.2459437	13.2459437
357	5898.4	575036	0.1120318	5/7/19 18:08	0.0194272	0.5817799	4.33372E+13	3.304655	6.70217E+12	0.19554	5.8557712	5.8557712
358	5899.98	575036		5/7/19 18:13	0.0194272	0.5817799	4.33372E+13	3.3055402	6.70217E+12	0.0183816	0.5504676	3.3055402
359	5899.98	575037		5/7/19 18:18	0.0194272	0.5817799	4.34075E+13	3.3001905	6.70217E+12	0.0124839	0.3738512	3.3001905
360 361	5901.99 5898.01	575039 575040		5/7/19 18:23 5/7/19 18:28	0.0194272 0.0194272	0.5817799 0.5817799	4.46549E+13 4.48497E+13	3.2090942 3.1930006	6.70217E+12 6.70217E+12	0.0063404 0.0069752	0.1898738 0.208884	3.2090942 3.1930006
362	5898.01	575040 575041		5/7/19 18:28 5/7/19 18:33	0.0194272	0.5817799		3.1930006	6.70217E+12 6.70217E+12	0.0069752	0.208884	3.1930006
363	5858.01	575041		5/7/19 18:38	0.0194272	0.5817799	4.53937E+13	3.1333408	6.70217E+12	0.0017807	0.0246012	3.1333408
364	5832.84	575041		5/7/19 18:43	0.0194272	0.5817799	4.53937E+13	3.1198778	6.70217E+12	0.007936	0.2376567	3.1198778
365	5825.57	575042		5/7/19 18:48	0.0194272	0.5817799		3.1328187	6.70217E+12	0.0131193	0.3928793	3.1328187
366	5730.23	575042		5/7/19 18:53	0.0194272	0.5817799	4.51499E+13	3.0815477	6.70217E+12	0.0147234	0.4409168	3.0815477
367	5765.61	575042		5/7/19 18:58	0.0194272	0.5817799	4.51499E+13	3.100574	6.70217E+12	0.015851	0.4746846	3.100574
368 369	5698.35 5728.93	575042 575043		5/7/19 19:03 5/7/19 19:08	0.0208363 0.0208363	0.6239777 0.6239777	4.51499E+13 4.50844E+13	3.0644036 3.0853184	6.70217E+12 6.70217E+12	0.0143949 0.0085453	0.4310793 0.2559033	3.0644036 3.0853184
370	5728.93 5726.34	575043 575044		5/7/19 19:08 5/7/19 19:13	0.0208363	0.6239777	4.52172E+13	3.0853184	6.70217E+12 6.70217E+12	0.0085453	0.2559033	3.0853184
371	5721.68	575044		5/7/19 19:18	0.0208363	0.6239777	4.52172E+13	3.072365	6.70217E+12	0.0074483	0.2230518	3.072365
372	5740.89	575044		5/7/19 19:23	0.0208363	0.6239777	4.52172E+13	3.0826801	6.70217E+12	0.0220669	0.6608301	3.0826801
373	5739.97	575047	0.1037772	5/7/19 19:28	0.0208363	0.6239777	4.55277E+13	3.0611659	6.70217E+12	0.0206216	0.6175482	3.0611659
374	5762.15	575047		5/7/19 19:33	0.0208363	0.6239777	4.55277E+13	3.0729946	6.70217E+12	0.0227412	0.6810231	3.0729946
375	5772.32	575048		5/7/19 19:38	0.0208363	0.6239777	4.5386E+13	3.0880343	6.70217E+12	0.0213669	0.6398674	3.0880343
376 377	5757.52 5780.76	575048 575048		5/7/19 19:43 5/7/19 19:48	0.0208363 0.0208363	0.6239777 0.6239777	4.5386E+13 4.5386E+13	3.0801167 3.0925494	6.70217E+12 6.70217E+12	0.0192512 0.0184615	0.5765093 0.5528604	3.0801167 3.0925494
378	5772.27	575049		5/7/19 19:53	0.0208363	0.6239777	4.47376E+13	3.1327595	6.70217E+12	0.0184613	0.5108692	3.1327595
379	5763.53	575049		5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
5/3				5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357

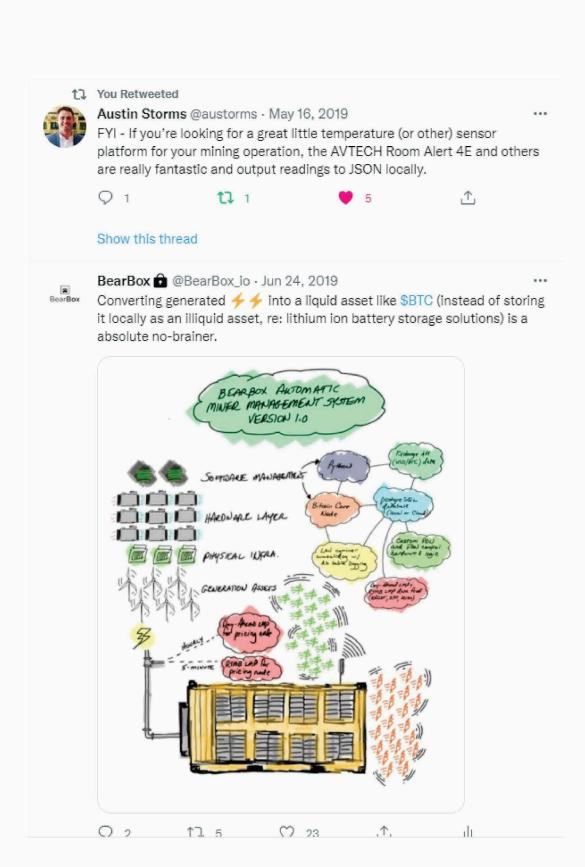
381	A 5785.64	575050	C 0.1067275	D 5/7/19 20:08	E 0.0214057	F 0.6410294	G 4.46214E+13	H 3.1481898	6.70217E+12	J 0.0200782	0.6012752	L 3.1481898
382	5794.65	575051		5/7/19 20:13	0.0214057	0.6410294		3.1422582	6.70217E+12	0.0200782	0.5663484	3.1422582
383	5794.99	575052		5/7/19 20:18	0.0214057	0.6410294		3.1224836	6.70217E+12	0.0168789	0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052		5/7/19 20:28	0.0214057	0.6410294		3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053		5/7/19 20:33	0.0214057	0.6410294		3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387 388	5792.26 5794.99	575054		5/7/19 20:38 5/7/19 20:43	0.0214057	0.6410294		3.1600161 3.1802017	6.70217E+12 6.70217E+12	0.0100913	0.3022008	3.1600161 3.1802017
389	5794.99	575055 575056		5/7/19 20:43 5/7/19 20:48	0.0214057 0.0214057	0.6410294 0.6410294		3.1418807	6.70217E+12 6.70217E+12	0.0159387 0.0155694	0.4773109 0.4662516	3.1802017
390	5799.99	575056		5/7/19 20:53	0.0214057	0.6410294		3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056		5/7/19 20:58	0.0214057	0.6410294		3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060		5/7/19 21:08	0.0187353	0.5610598		3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060		5/7/19 21:13	0.0187353	0.5610598		3.1428873	6.70217E+12	0.0147359	0.4412911	3.1428873
395 396	5804.47 5797.19	575060 575061		5/7/19 21:18 5/7/19 21:23	0.0187353 0.0187353	0.5610598 0.5610598		3.1426058 3.1774565	6.70217E+12 6.70217E+12	0.0161425 0.0166747	0.4834141 0.4993517	3.1426058 3.1774565
397	5796.01	575061		5/7/19 21:28	0.0187353	0.5610598		3.1656063	6.70217E+12	0.0160747	0.4868609	3.1656063
398	5796.91	575062		5/7/19 21:33	0.0187353	0.5610598		3.1660978	6.70217E+12	0.0154972	0.4640895	3.1660978
399	5804.49	575063		5/7/19 21:38	0.0187353	0.5610598	4.41402E+13	3.1928815	6.70217E+12	0.0140195	0.4198373	3.1928815
400	5807.51	575063	0.1082989	5/7/19 21:43	0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064		5/7/19 21:48	0.0187353	0.5610598		3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064		5/7/19 21:53	0.0187353	0.5610598		3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403	5793.65	575064		5/7/19 21:58	0.0187353	0.5610598		3.1663128	6.70217E+12	0.0143717	0.4303845	3.1663128
404 405	5778.02 5773.43	575065 575066		5/7/19 22:03 5/7/19 22:08	0.0092857 0.0092857	0.2780758 0.2780758		3.1578114 3.1034402	6.70217E+12 6.70217E+12	0.0159167 0.0153253	0.4766521 0.4589417	3.1578114 3.1034402
406	5773.43	575066		5/7/19 22:08	0.0092857	0.2780758		3.11034402	6.70217E+12 6.70217E+12	0.0133233	0.4175733	3.1034402
407	5791.59	575067		5/7/19 22:18	0.0092857	0.2780758		3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408	5790.02	575067		5/7/19 22:23	0.0092857	0.2780758		3.1167126	6.70217E+12	0.0122573	0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758		3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015
410	5775.43	575067		5/7/19 22:33	0.0092857	0.2780758		3.1088589	6.70217E+12	0.0135185	0.404834	3.1088589
411	5779.99	575068		5/7/19 22:38	0.0092857	0.2780758		3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412 413	5785.55 5776.9	575068 575070		5/7/19 22:43 5/7/19 22:48	0.0092857 0.0092857	0.2780758 0.2780758		3.1526954 3.1409571	6.70217E+12 6.70217E+12	0.0132167 0.0151927	0.3957961 0.4549707	3.1526954 3.1409571
414	5776.9	575070		5/7/19 22:48 5/7/19 22:53	0.0092857	0.2780758		3.1439203	6.70217E+12 6.70217E+12	0.0151927	0.381808	3.1409571
415	5778.56	575070		5/7/19 22:58	0.0092857	0.2780758		3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	0.321747		3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11	575077	0.1056478	5/8/19 0:08	0.010744	0.321747		3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417
418	5801.23	575078	0.1058179	5/8/19 0:13	0.010744	0.321747		3.1213604	6.70217E+12	0.0121536	0.3639598	3.1213604
419 420	5791.66 5795.5	575078 575078	0.1056434 0.1057134	5/8/19 0:18 5/8/19 0:23	0.010744 0.010744	0.321747 0.321747		3.1162113 3.1182774	6.70217E+12 6.70217E+12	0.0124538 0.0132227	0.3729498 0.3959758	3.1162113 3.1182774
421	5795.98	575078	0.1057134	5/8/19 0:28	0.010744	0.321747		3.1426942	6.70217E+12	0.0132227	0.4004199	3.1426942
422	5799.99	575081	0.102499	5/8/19 0:33	0.010744	0.321747		3.0234621	6.70217E+12	0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	0.321747		3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	5/8/19 0:43	0.010744	0.321747		2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	5/8/19 0:48	0.010744	0.321747		2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426 427	5795.31	575086	0.0988438	5/8/19 0:53	0.010744	0.321747		2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
428	5799.55 5810.52	575087 575087	0.0990391 0.0992264	5/8/19 0:58 5/8/19 1:03	0.010744 0.0116366	0.321747 0.3484774		2.9214025 2.9269284	6.70217E+12 6.70217E+12	0.0135535 0.0126685	0.4058821 0.3793793	2.9214025 2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774		2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774		2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431	5817.19	575090	0.0973429	5/8/19 1:18	0.0116366	0.3484774	4.91901E+13	2.8713676	6.70217E+12	0.0126278	0.3781605	2.8713676
432	5820.91	575090	0.0974051	5/8/19 1:23	0.0116366	0.3484774		2.8732038	6.70217E+12	0.0125071	0.374546	2.8732038
433	5831.99	575090	0.0975905	5/8/19 1:28	0.0116366	0.3484774		2.8786729	6.70217E+12	0.0125147	0.3747735	2.8786729
434 435	5837.72 5825.57	575090 575090	0.0976864 0.0974831	5/8/19 1:33 5/8/19 1:38	0.0116366	0.3484774	4.91901E+13 4.91901E+13	2.8815012 2.875504	6.70217E+12 6.70217E+12	0.0030723	0.0920051 0.0209866	2.8815012 2.875504
436	5834.9	575090	0.0974831	5/8/19 1:43	0.0116366 0.0116366	0.3484774 0.3484774		2.8801093	6.70217E+12	0.0007008 0.002842	0.0209888	2.8801093
437	5839.94	575090	0.0977235	5/8/19 1:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0037273	0.1116202	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13	2.8765356	6.70217E+12	0.0045235	0.1354637	2.8765356
440	5833.57	575090	0.097617		0.0119665	0.3583568	4.91901E+13			0.005794	0.173511	2.8794528
441	5837.02	575090		5/8/19 2:09	0.0119665	0.3583568	4.91901E+13			0.0120927	0.3621361	2.8811557
442 443	5834.82 5832.01	575091 575091	0.1021121 0.1020629		0.0119665 0.0119665	0.3583568 0.3583568		3.0120484 3.0105978	6.70217E+12 6.70217E+12	0.0138694 0.0243003	0.4153423 0.727713	3.0120484 3.0105978
444	5827.28	575091	0.1020629		0.0119665	0.3583568		3.0081561	6.70217E+12	0.0243003	0.4387067	3.0081561
445	5814.3	575091	0.101753		0.0119665	0.3583568		3.0014556	6.70217E+12	0.013417	0.4017944	3.0014556
446	5822.06	575092	0.1015212	5/8/19 2:34	0.0119665	0.3583568	4.72051E+13	2.9946169	6.70217E+12	0.013794	0.4130843	2.9946169
447	5827.69	575092	0.1016193		0.0119665	0.3583568		2.9975127	6.70217E+12	0.0134243	0.402013	2.9975127
448	5825.01	575094	0.1011451		0.0119665	0.3583568		2.9835236	6.70217E+12	0.0173396	0.5192632	2.9835236
449	5825.01	575094	0.1011451		0.0119665	0.3583568		2.9835236	6.70217E+12 6.70217E+12	0.0160878	0.481776	2.9835236
450 451	5827.65 5828.98	575094 575094	0.1011909 0.101214		0.0119665 0.0119665	0.3583568 0.3583568	4.74046E+13 4.74046E+13	2.9848758 2.985557	6.70217E+12 6.70217E+12	0.0135423 0.0119787	0.4055467 0.3587221	2.9848758 2.985557
452	5816.75	575094	0.101214		0.0120924	0.3621271	4.67603E+13	3.020342	6.70217E+12	0.0119787	0.2378065	3.020342
453	5816.32	575095	0.1023857	5/8/19 3:09	0.0120924	0.3621271		3.0201187	6.70217E+12	0.011828	0.3542092	3.0201187
454	5822.73	575095	0.1024985	5/8/19 3:14	0.0120924	0.3621271	4.67603E+13	3.0234471	6.70217E+12	0.0145702	0.4363289	3.0234471
455	5828.4	575095	0.1025983		0.0120924	0.3621271		3.0263913	6.70217E+12	0.0152655	0.4571508	3.0263913
456	5829.18	575097	0.1038705		0.0120924	0.3621271	4.61938E+13	3.0639178	6.70217E+12	0.0169161	0.5065808	3.0639178
457 458	5837.98 5838.98	575097 575098	0.1040273 0.1040229		0.0120924 0.0120924	0.3621271 0.3621271		3.0685432 3.0684122	6.70217E+12 6.70217E+12	0.0230203	0.6893813 2.532344	3.0685432 3.0684122
458	5838.98	575098 575098	0.1040229		0.0120924	0.3621271		3.0684122	6.70217E+12 6.70217E+12	0.0845618 0.0234107	0.7010724	3.0629154
460	5822.59	575099	0.1038300		0.0120924	0.3621271		3.0862378	6.70217E+12	0.0234107	0.5034514	3.0862378
461	5803.44	575099	0.1042831		0.0120924	0.3621271		3.0760874	6.70217E+12	0.0140409	0.4204782	3.0760874
462	5796.56	575099	0.1041595		0.0120924	0.3621271		3.0724407	6.70217E+12	0.0144936	0.434035	3.0724407
	5807.05	575101	0.1050426		0.0120924	0.3621271		3.0984912	6.70217E+12	0.0119057	0.356536	3.0984912
463		575101	0.105092		0.0137229	0.4109551		3.0999478	6.70217E+12	0.0125622	0.376196	3.0999478
463 464	5809.78		0.1051445		0.0137229 0.0137229	0.4109551 0.4109551		3.1014952 3.0937385	6.70217E+12 6.70217E+12	0.0142995 0.0193516	0.4282224 0.5795159	3.1014952 3.0937385
463 464 465	5812.68	575101 575102	U 1UV881E		0.013/223			3.0855325			0.6012213	3.0855325
463 464 465 466	5812.68 5815.61	575102	0.1048815 0.1046033		0.0137229	0.4109553		3.0033323	6./UZ1/E+1Z	0.0200764	0.0012213	
463 464 465	5812.68		0.1048815 0.1046033 0.1050843	5/8/19 4:19	0.0137229 0.0137229	0.4109551 0.4109551	4.55884E+13		6.70217E+12 6.70217E+12	0.0200764 0.0189938	0.568801	3.09972
463 464 465 466 467 468 469	5812.68 5815.61 5808.55 5820.01 5816.06	575102 575103 575104 575105	0.1046033 0.1050843 0.1052763	5/8/19 4:19 5/8/19 4:24 5/8/19 4:29	0.0137229 0.0137229	0.4109551 0.4109551	4.55884E+13 4.54744E+13	3.09972 3.1053836	6.70217E+12 6.70217E+12	0.0189938 0.0230152	0.568801 0.6892285	3.09972 3.1053836
463 464 465 466 467 468 469 470	5812.68 5815.61 5808.55 5820.01 5816.06 5808.82	575102 575103 575104 575105 575106	0.1046033 0.1050843 0.1052763 0.1053792	5/8/19 4:19 5/8/19 4:24 5/8/19 4:29 5/8/19 4:34	0.0137229 0.0137229 0.0137229	0.4109551 0.4109551 0.4109551	4.55884E+13 4.54744E+13 4.53734E+13	3.09972 3.1053836 3.1084182	6.70217E+12 6.70217E+12 6.70217E+12	0.0189938 0.0230152 0.0197229	0.568801 0.6892285 0.5906351	3.09972 3.1053836 3.1084182
463 464 465 466 467 468 469 470 471	5812.68 5815.61 5808.55 5820.01 5816.06 5808.82 5815.31	575102 575103 575104 575105 575106 575106	0.1046033 0.1050843 0.1052763 0.1053792 0.1054969	5/8/19 4:19 5/8/19 4:24 5/8/19 4:29 5/8/19 4:34 5/8/19 4:39	0.0137229 0.0137229 0.0137229 0.0137229	0.4109551 0.4109551 0.4109551 0.4109551	4.55884E+13 4.54744E+13 4.53734E+13 4.53734E+13	3.09972 3.1053836 3.1084182 3.1118911	6.70217E+12 6.70217E+12 6.70217E+12 6.70217E+12	0.0189938 0.0230152 0.0197229 0.0184185	0.568801 0.6892285 0.5906351 0.5515727	3.09972 3.1053836 3.1084182 3.1118911
463 464 465 466 467 468 469 470 471 472	5812.68 5815.61 5808.55 5820.01 5816.06 5808.82 5815.31 5818.61	575102 575103 575104 575105 575106 575106 575108	0.1046033 0.1050843 0.1052763 0.1053792 0.1054969 0.1056718	5/8/19 4:19 5/8/19 4:24 5/8/19 4:29 5/8/19 4:34 5/8/19 4:39 5/8/19 4:44	0.0137229 0.0137229 0.0137229 0.0137229 0.0137229	0.4109551 0.4109551 0.4109551 0.4109551 0.4109551	4.55884E+13 4.54744E+13 4.53734E+13 4.53734E+13 4.5324E+13	3.09972 3.1053836 3.1084182 3.1118911 3.1170516	6.70217E+12 6.70217E+12 6.70217E+12 6.70217E+12 6.70217E+12	0.0189938 0.0230152 0.0197229 0.0184185 0.0141625	0.568801 0.6892285 0.5906351 0.5515727 0.4241197	3.09972 3.1053836 3.1084182 3.1118911 3.1170516
463 464 465 466 467 468 469 470 471	5812.68 5815.61 5808.55 5820.01 5816.06 5808.82 5815.31	575102 575103 575104 575105 575106 575106	0.1046033 0.1050843 0.1052763 0.1053792 0.1054969	5/8/19 4:19 5/8/19 4:24 5/8/19 4:29 5/8/19 4:34 5/8/19 4:39 5/8/19 4:44 5/8/19 4:49	0.0137229 0.0137229 0.0137229 0.0137229	0.4109551 0.4109551 0.4109551 0.4109551	4.55884E+13 4.54744E+13 4.53734E+13 4.53734E+13 4.5324E+13 4.5324E+13	3.09972 3.1053836 3.1084182 3.1118911	6.70217E+12 6.70217E+12 6.70217E+12 6.70217E+12	0.0189938 0.0230152 0.0197229 0.0184185	0.568801 0.6892285 0.5906351 0.5515727	3.09972 3.1053836 3.1084182 3.1118911

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476	A 5821.06	B 575109	C 0.1057288	D 5/8/19 5:04	E 0.0172785	F 0.5174335	G 4.53187E+13	H 3.1187323	6.70217E+12	J 0.0087613	K 0.2623717	L 3.1187323
477	5830.24	575109	0.1057288	5/8/19 5:04	0.0172785	0.5174335	4.53187E+13 4.53187E+13	3.1187323	6.70217E+12 6.70217E+12	0.0087613	0.3747735	3.1187323
478	5816.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0123147	0.4746966	3.1230307
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572	5/8/19 5:24	0.0172785	0.5174335		3.1225197	6.70217E+12	0.0159657	0.4781195	3.1225197
481	5814.19	575113	0.1054793	5/8/19 5:29	0.0172785	0.5174335	4.53722E+13	3.1113735	6.70217E+12	0.0189354	0.5670521	3.1113735
482	5822.89	575113	0.1056372	5/8/19 5:34	0.0172785	0.5174335	4.53722E+13	3.1160292	6.70217E+12	0.0168377	0.504233	3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0142709	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13	3.1200304	6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335		3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12	0.0078999	0.2365757	3.127459
487	5838.51	575115	0.1055129	5/8/19 5:59	0.0172785	0.5174335	4.55475E+13	3.1123637	6.70217E+12	0.0157437	0.4714713	3.1123637
488	5829.09	575117	0.1054774	5/8/19 6:04	0.0211899	0.6345669		3.1113164	6.70217E+12	0.015334	0.4592022	3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14 5/8/19 6:19	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491 492	5843.74	575119	0.1054459 0.1054331		0.0211899	0.6345669	4.56173E+13 4.56173E+13	3.1103869 3.110009	6.70217E+12 6.70217E+12	0.0159603	0.4779578 0.5089107	3.1103869 3.110009
493	5843.03 5842.51	575119 575119	0.1054237	5/8/19 6:24 5/8/19 6:29	0.0211899 0.0211899	0.6345669 0.6345669	4.56173E+13	3.110009	6.70217E+12	0.0169939 0.0176305	0.5279747	3.1097323
494	5859.77	575120	0.1055662	5/8/19 6:34	0.0211899	0.6345669	4.56903E+13	3.1139353	6.70217E+12	0.0170303	0.5453528	3.1139353
495	5849.16	575120	0.1053002	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13	3.1082971	6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13	3.1140097	6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498	5849.77	575122	0.1058251	5/8/19 6:54	0.0211899	0.6345669	4.55007E+13	3.1215733	6.70217E+12	0.035146	1.0525055	3.1215733
499	5847.52	575123	0.1059851	5/8/19 6:59	0.0211899	0.6345669	4.54146E+13	3.1262913	6.70217E+12	0.0331317	0.992184	3.1262913
500	5858.74	575123	0.1061884	5/8/19 7:04	0.0245969	0.7365952	4.54146E+13	3.1322899	6.70217E+12	0.0225584	0.6755489	3.1322899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503	5864.03	575124	0.10456	5/8/19 7:19	0.0245969	0.7365952	4.61635E+13	3.0842552	6.70217E+12	0.0206953	0.6197553	3.0842552
504	5860.24	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13	3.0960609	6.70217E+12	0.0230157	0.6892435	3.0960609
505	5855.35	575125	0.1048726	5/8/19 7:29	0.0245969	0.7365952	4.59578E+13	3.0934774	6.70217E+12	0.0225888	0.6764593	3.0934774
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508	5855.4	575125	0.1048735	5/8/19 7:44	0.0245969	0.7365952	4.59578E+13	3.0935039	6.70217E+12	0.0198359	0.5940191	3.0935039
509	5848.68	575126	0.102448	5/8/19 7:49	0.0245969	0.7365952	4.69919E+13	3.0219576	6.70217E+12	0.0296779	0.8887542	3.0219576
510	5843.55	575127	0.1024751	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0208223	0.6235585	3.0227572
511 512	5851.77	575127	0.1026193	5/8/19 7:59	0.0245969	0.7365952 0.7249938	4.69382E+13	3.0270092	6.70217E+12 6.70217E+12	0.0230156	0.6892405	3.0270092
513	5849.49 5849.48	575127 575129	0.1025793 0.1024537	5/8/19 8:04 5/8/19 8:09	0.0242095 0.0242095	0.7249938	4.69382E+13 4.69957E+13	3.0258298 3.0221242	6.70217E+12 6.70217E+12	0.0232039 0.0199092	0.6948795	3.0258298 3.0221242
514	5848.2	575130	0.1024337	5/8/19 8:14	0.0242095	0.7249938	4.70405E+13	3.0185855	6.70217E+12	0.0193092	0.5962142 0.5806209	3.0185855
515	5833.78	575131	0.1025357	5/8/19 8:19	0.0242095	0.7249938	4.71632E+13	3.0033105	6.70217E+12	0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.101054	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.0187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	2.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.2149698	6.4376289	6.4376289
527 528	5839.16 5843.2	575137 575137	0.1019473 0.1020179	5/8/19 9:20 5/8/19 9:25	0.0244939 0.0244939	0.7335107 0.7335107	4.71458E+13 4.71458E+13	3.0071883 3.0092689	6.70217E+12 6.70217E+12	0.2149291 0.0275293	6.4364101 0.8244108	6.4364101 3.0092689
529	5841.15	575137	0.1020179	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0092089	6.70217E+12	0.0273293	1.2864369	3.0092089
530	5849.05	575139	0.1019821	5/8/19 9:35	0.0244939	0.7335107	4.71456E+13 4.7577E+13	2.9849829	6.70217E+12	0.0429376	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140	0.100034	5/8/19 9:50	0.0244939	0.7335107	4.82522E+13	2.9507504	6.70217E+12	0.0259313	0.776556	2.9507504
534	5868.53	575142			0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143		5/8/19 10:00	0.0273545	0.8191761	4.99946E+13			0.018816	0.5634765	2.8448083
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13			0.0166105	0.4974291	2.8492083
537	5863.82	575143	0.0965442	5/8/19 10:10	0.0273545	0.8191761		2.8478096		0.0189675	0.5680134	2.8478096
538	5866.01	575143		5/8/19 10:15	0.0273545	0.8191761			6.70217E+12	0.0207265	0.6206896	2.8488732
539	5864.99	575144		5/8/19 10:20	0.0273545	0.8191761	5.16596E+13	2.7565705	6.70217E+12	0.0230154	0.6892345	2.7565705
540	5879.4	575144		5/8/19 10:25	0.0273545	0.8191761	5.16596E+13	2.7633433	6.70217E+12	0.022665	0.6787412	2.7633433
541	5893.62	575144		5/8/19 10:30	0.0273545	0.8191761	5.16596E+13	2.7700267	6.70217E+12	0.026083	0.7810989	2.7700267
542	5896.01	575144		5/8/19 10:35	0.0273545	0.8191761	5.16596E+13	2.77115	6.70217E+12	0.0230839	0.6912859	2.77115
543	5888.01	575145		5/8/19 10:40	0.0273545	0.8191761	5.12313E+13	2.790525	6.70217E+12	0.0287548	0.8611104	2.790525
544	5881.26	575145		5/8/19 10:45	0.0273545	0.8191761	5.12313E+13	2.787326	6.70217E+12	0.0290496	0.8699387	2.787326
545	5890.78	575145		5/8/19 10:50	0.0273545	0.8191761	5.12313E+13	2.7918378 2.797307	6.70217E+12	0.031648	0.9477521	2.7918378
546 547	5902.32 5892.56	575145 575146		5/8/19 10:55 5/8/19 11:01	0.0273545 0.0256602	0.8191761 0.7684375	5.12313E+13 5.06462E+13	2.797307	6.70217E+12 6.70217E+12	0.0386126 0.1850845	1.1563187 5.5426638	2.797307 5.5426638
548	5892.56	575146 575146		5/8/19 11:01 5/8/19 11:06	0.0256602	0.7684375	5.06462E+13 5.06462E+13	2.8249464	6.70217E+12 6.70217E+12	0.1850845	3.663783	3.663783
549	5892.8	575146		5/8/19 11:06	0.0256602	0.7684375	5.06462E+13	2.8222665	6.70217E+12 6.70217E+12	0.1223436	0.8678185	2.8222665
550	5886.09	575146		5/8/19 11:11	0.0256602	0.7684375	5.09916E+13	2.8027303	6.70217E+12 6.70217E+12	0.0289788	0.8794468	2.8222665
551	5892.15	575147		5/8/19 11:21	0.0256602	0.7684375	5.09916E+13	2.8056159	6.70217E+12	0.0293671	0.6660827	2.8056159
552	5876.44	575147		5/8/19 11:26	0.0256602	0.7684375	5.08355E+13	2.8056139	6.70217E+12	0.0222423	0.6205758	2.8067268
553	5884.06	575149		5/8/19 11:31	0.0256602	0.7684375	5.07027E+13	2.8177282	6.70217E+12	0.0207227	0.5737302	2.8177282
554	5888.27	575149		5/8/19 11:36	0.0256602	0.7684375	5.07027E+13	2.8177282	6.70217E+12	0.0131384	0.6400321	2.8177282
555	5886.01	575149		5/8/19 11:41	0.0256602	0.7684375	5.07027E+13	2.818662	6.70217E+12	0.0222172	0.6653311	2.818662
556	5884.57	575150		5/8/19 11:46	0.0256602	0.7684375	5.17548E+13	2.7606856	6.70217E+12	0.0230647	0.6907109	2.7606856
557	5889.82	575150		5/8/19 11:51	0.0256602	0.7684375	5.17548E+13	2.7631486	6.70217E+12	0.0228225	0.6834578	2.7631486
558	5888.19	575151		5/8/19 11:56	0.0256602	0.7684375	5.12716E+13	2.7884168	6.70217E+12	0.0233477	0.6991858	2.7884168
559	5872.61	575151		5/8/19 12:01	0.026371	0.7897235	5.12716E+13	2.7810387	6.70217E+12	0.0224703	0.6729106	2.7810387
560	5867.29	575152		5/8/19 12:06	0.026371	0.7897235	5.10142E+13	2.7925413	6.70217E+12	0.0217427	0.6511214	2.7925413
561	5863.69	575152		5/8/19 12:11	0.026371	0.7897235		2.7908278	6.70217E+12	0.0206502	0.6184047	2.7908278
562	5866.61	575153		5/8/19 12:16	0.026371	0.7897235	5.09698E+13	2.7946505	6.70217E+12	0.0211696	0.633959	2.7946505
563	5868.73	575154		5/8/19 12:21	0.026371	0.7897235		2.7829139	6.70217E+12	0.0227271	0.6806009	2.7829139
564	5877.65	575154		5/8/19 12:26	0.026371	0.7897235	5.12032E+13	2.7871437	6.70217E+12	0.0262613	0.7864384	2.7871437
565	5886.52	575156		5/8/19 12:31	0.026371	0.7897235	5.18317E+13	2.7575042	6.70217E+12	0.0246938	0.739497	2.7575042
566	5883.25	575156		5/8/19 12:36	0.026371	0.7897235		2.7559724	6.70217E+12	0.0239477	0.7171538	2.7559724
567 568	5880.8	575156		5/8/19 12:41	0.026371	0.7897235		2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
568	5886.84	575157		5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	2.7485095
570	5887.77	575157		5/8/19 12:51	0.026371	0.7897235		2.7489437	6.70217E+12	0.0210953	0.6317339	2.7489437
J/U	5886.14	575159	0.0936745	5/8/19 12:56	0.026371	0.7897235	5.17223E+13	2.7631598	6.70217E+12	0.0221968	0.6647202	2.7631598

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571	A 5880.23	575159	C 0.0935804	D 5/8/19 13:01	E 0.0224056	F 0.670973	G 5.17223E+13	H 2.7603855	6.70217E+12	0.0220558	K 0.6604977	2.7603855
572	5884.79	575159		5/8/19 13:06	0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0220338	0.6962031	2.7625261
573	5887.12	575159		5/8/19 13:11	0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159		5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575	5887.05	575160	0.095298	5/8/19 13:21	0.0224056	0.670973	5.0849E+13	2.8110496	6.70217E+12	0.0210217	0.6295298	2.8110496
576	5885.01	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
577	5877.03	575161		5/8/19 13:31	0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163		5/8/19 13:36	0.0224056	0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
579	5878.37	575163		5/8/19 13:41	0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580	5884.42	575163		5/8/19 13:46	0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28	575163		5/8/19 13:51	0.0224056	0.670973	5.19737E+13	2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
582	5884.83	575163		5/8/19 13:56	0.0224056	0.670973	5.19737E+13	2.7491843 2.793214	6.70217E+12 6.70217E+12	0.0262751	0.7868517	2.7491843
583 584	5884.52 5879.67	575164 575164		5/8/19 14:01 5/8/19 14:06	0.0200678 0.0200678	0.6009637 0.6009637	5.11517E+13 5.11517E+13	2.793214	6.70217E+12 6.70217E+12	0.027166 0.0243166	0.8135311 0.7282011	2.793214 2.7909119
585	5877.49	575164		5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0243100	0.6249899	2.7898771
586	5887.28	575166		5/8/19 14:16	0.0200678	0.6009637	5.0966E+13	2.8047039	6.70217E+12	0.0208701	0.6537118	2.8047039
587	5884.05	575166		5/8/19 14:21	0.0200678	0.6009637	5.0966E+13	2.8031651	6.70217E+12	0.0217633	0.6517383	2.8031651
588	5885.12	575166		5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
589	5902.91	575167		5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591	5906.61	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13	2.8378267	6.70217E+12	0.0426523	1.2772942	2.8378267
592	5912.28	575167		5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	2.8405508	6.70217E+12	0.1999116	5.986686	5.986686
593	5908.65	575170		5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
594	5900.02	575170		5/8/19 14:56	0.0200678	0.6009637	5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
595	5884.23	575171		5/8/19 15:01	0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596	5890.02	575171		5/8/19 15:06	0.0170556	0.5107584	5.09465E+13	2.8070857	6.70217E+12	0.0254303	0.7615527	2.8070857
597	5890.65	575171		5/8/19 15:11	0.0170556	0.5107584	5.09465E+13	2.8073859 2.7967533	6.70217E+12 6.70217E+12	0.0264722 0.0232906	0.7927541	2.8073859
598 599	5868.34 5883.01	575171 575172		5/8/19 15:16 5/8/19 15:21	0.0170556 0.0170556	0.5107584 0.5107584	5.09465E+13 5.03355E+13	2.7967533	6.70217E+12 6.70217E+12	0.0232906	0.6974758 0.6655317	2.7967533 2.837777
600	5883.01	575172		5/8/19 15:21 5/8/19 15:26	0.0170556	0.5107584	5.03355E+13 5.03355E+13	2.837777	6.70217E+12 6.70217E+12	0.0222239	0.6437635	2.837777
601	5882.35	575172		5/8/19 15:31	0.0170556	0.5107584	5.06566E+13	2.8194728	6.70217E+12	0.0233908	0.7004765	2.8194728
602	5895.23	575174		5/8/19 15:36	0.0170556	0.5107584	5.05218E+13	2.8331879	6.70217E+12	0.0253300	0.7791853	2.8331879
603	5891.02	575174		5/8/19 15:41	0.0170556	0.5107584	5.05218E+13	2.8311646	6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174		5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174		5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802	5/8/19 15:56	0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607	5900.14	575176	0.0971661	5/8/19 16:01	0.0174326	0.5220483	4.99823E+13	2.8661537	6.70217E+12	0.0209977	0.6288111	2.8661537
608	5891.31	575176		5/8/19 16:06	0.0174326	0.5220483	4.99823E+13	2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
609	5893.65	575176		5/8/19 16:11	0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177		5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177		5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
612 613	5895.84 5896.89	575178 575179		5/8/19 16:26 5/8/19 16:31	0.0174326 0.0174326	0.5220483 0.5220483	4.97004E+13 4.94846E+13	2.88031 2.8933819	6.70217E+12 6.70217E+12	0.0215949 0.0198411	0.6466953 0.5941748	2.88031 2.8933819
614	5902.19	575179		5/8/19 16:36	0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181		5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678586	2.8770052
616	5906.84	575181		5/8/19 16:46	0.0174326	0.5220483	4.98424E+13	2.8774631	6.70217E+12	0.0254538	0.7622565	2.8774631
617	5904.42	575181		5/8/19 16:51	0.0174326	0.5220483	4.98424E+13	2.8762842	6.70217E+12	0.025079	0.7510325	2.8762842
618	5903.02	575181	0.0974864	5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182	0.0989154	5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.9177544	6.70217E+12	0.0226389	0.6779596	2.9177544
620	5898.06	575182	0.098973	5/8/19 17:06	0.0174032	0.5211678	4.90525E+13	2.9194522	6.70217E+12	0.0256642	0.7685572	2.9194522
621	5891.22	575182	0.0988582	5/8/19 17:11	0.0174032	0.5211678	4.90525E+13	2.9160665	6.70217E+12	0.0384273	1.1507695	2.9160665
622	5888.49	575182		5/8/19 17:16	0.0174032	0.5211678	4.90525E+13	2.9147151	6.70217E+12	0.0364449	1.0914033	2.9147151
623	5895.57	575183		5/8/19 17:21	0.0174032	0.5211678	4.86826E+13	2.9403898	6.70217E+12	0.0191003	0.5719903	2.9403898
624 625	5896.91	575183		5/8/19 17:26 5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
626	5918.72 5926.18	575183 575183			0.0174032	0.5211678	4.86826E+13 4.86826E+13	2.9519358 2.9556564	6.70217E+12 6.70217E+12	0.0030289	0.0907055	2.9519358 2.9556564
627	5934.97	575183		5/8/19 17:36 5/8/19 17:41	0.0174032 0.0174032	0.5211678 0.5211678	4.86826E+13	2.9550504	6.70217E+12	0.0439309 0.0408583	1.315584 1.2235699	2.9556564
628	5944.99	575185		5/8/19 17:46	0.0174032	0.5211678	4.86669E+13	2.9659989	6.70217E+12	0.0170991	0.512061	2.9659989
629	5940.01	575185		5/8/19 17:51	0.0174032	0.5211678	4.86669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186		5/8/19 17:56	0.0174032	0.5211678	4.83948E+13			0.0163528	0.4897119	2.9759139
631	5938.6	575188		5/8/19 18:01	0.0165475	0.4955425	4.95535E+13		6.70217E+12	0.0185884	0.5566606	2.9097985
632	5931.02	575189	0.0980181	5/8/19 18:06	0.0165475	0.4955425	4.98071E+13	2.8912849	6.70217E+12	0.0173413	0.5193141	2.8912849
633	5928.19	575189		5/8/19 18:12	0.0165475	0.4955425	4.98071E+13	2.8899053	6.70217E+12	0.0187899	0.5626949	2.8899053
634	5932.23	575189		5/8/19 18:17	0.0165475	0.4955425	4.98071E+13	2.8918748	6.70217E+12	0.0180684	0.5410884	2.8918748
635	5931.78	575189		5/8/19 18:22	0.0165475	0.4955425	4.98071E+13	2.8916554	6.70217E+12	0.0164812	0.493557	2.8916554
636	5964.15	575189		5/8/19 18:27	0.0165475	0.4955425	4.98071E+13	2.9074353	6.70217E+12	0.0180238	0.5397527	2.9074353
637	5899.89 5931.45	575189		5/8/19 18:32	0.0165475	0.4955425	4.98071E+13	2.8761095 2.9743362	6.70217E+12	0.0168118	0.5034574	2.8761095
638 639	5931.45 5929.97	575190 575190		5/8/19 18:37 5/8/19 18:42	0.0165475 0.0165475	0.4955425 0.4955425	4.84199E+13 4.84199E+13	2.9743362	6.70217E+12 6.70217E+12	0.0122315 0.0162317	0.3662927 0.4860853	2.9743362 2.973594
640	5929.97	575190		5/8/19 18:42	0.0165475	0.4955425	4.84199E+13 4.90239E+13	2.973594	6.70217E+12 6.70217E+12	0.0162317	0.2720804	2.9336031
641	5934.99	575191		5/8/19 18:52	0.0165475	0.4955425	4.92195E+13	2.9336031	6.70217E+12	0.0090833	0.3657117	2.9330031
642	5940.66	575194		5/8/19 18:57	0.0165475	0.4955425	4.94421E+13	2.9173636	6.70217E+12	0.0091815	0.2749553	2.9173636
643	5948.18	575194		5/8/19 19:02	0.0158704	0.4752656	4.94421E+13	2.9210566	6.70217E+12	0.0137605	0.4120811	2.9210566
644	5964.98	575194		5/8/19 19:07	0.0158704	0.4752656	4.94421E+13	2.9293068	6.70217E+12	0.0152734	0.4573874	2.9293068
645	5960.1	575194		5/8/19 19:12	0.0158704	0.4752656	4.94421E+13	2.9269103	6.70217E+12	0.0109359	0.3274938	2.9269103
646	5946.01	575194		5/8/19 19:17	0.0158704	0.4752656	4.94421E+13	2.9199909	6.70217E+12	0.0150092	0.4494755	2.9199909
647	5937.16	575194		5/8/19 19:22	0.0158704	0.4752656	4.94421E+13	2.9156448	6.70217E+12	0.0154969	0.4640805	2.9156448
648	5955.08	575194		5/8/19 19:27	0.0158704	0.4752656	4.94421E+13	2.9244451	6.70217E+12	0.0152611	0.4570191	2.9244451
649	5957.98	575195		5/8/19 19:32	0.0158704	0.4752656	4.85444E+13	2.979976	6.70217E+12	0.0228461	0.6841645	2.979976
650	5962.91	575195		5/8/19 19:37	0.0158704	0.4752656	4.85444E+13	2.9824418	6.70217E+12	0.0165428	0.4954017	2.9824418
651	5956.59	575195		5/8/19 19:42	0.0158704	0.4752656	4.85444E+13	2.9792807	6.70217E+12	0.0163774	0.4904485	2.9792807
652	5957.7	575195 575195		5/8/19 19:47	0.0158704	0.4752656	4.85444E+13	2.9798359	6.70217E+12	0.0147872	0.4428273	2.9798359
653 654	5969.98 5987.65	575195 575195		5/8/19 19:52 5/8/19 19:57	0.0158704	0.4752656	4.85444E+13 4.85444E+13	2.985978 2.9948159	6.70217E+12 6.70217E+12	0.0161979	0.4850731	2.985978 2.9948159
655	5987.65 6036.6	575195 575195		5/8/19 19:57	0.0158704 0.013261	0.4752656 0.3971227	4.85444E+13 4.85444E+13	3.019299	6.70217E+12 6.70217E+12	0.0140256 0.0154454	0.42002 0.4625382	3.019299
656	6037.49	575195 575196		5/8/19 20:02	0.013261	0.3971227	4.85444E+13 4.73117E+13	3.019299	6.70217E+12 6.70217E+12	0.0154454	0.4703963	3.019299
657	6092.47	575196		5/8/19 20:12	0.013261	0.3971227	4.73117E+13 4.73117E+13	3.1266382	6.70217E+12	0.0137078	0.6448146	3.1266382
658	6052.38	575196		5/8/19 20:17	0.013261	0.3971227	4.73117E+13	3.1060641	6.70217E+12	0.0213321	0.5557203	3.1060641
659	6053.32	575199		5/8/19 20:22	0.013261	0.3971227	4.80997E+13	3.0556586	6.70217E+12	0.0163585	0.4898825	3.0556586
660	6041.03	575200		5/8/19 20:27	0.013261	0.3971227	4.8162E+13	3.0455058	6.70217E+12	0.0188459	0.5643719	3.0455058
661	6030.66	575202		5/8/19 20:32	0.013261	0.3971227	4.80789E+13	3.0455341	6.70217E+12	0.0134602	0.4030881	3.0455341
662	6043.34	575204		5/8/19 20:37	0.013261	0.3971227	4.81808E+13	3.0454809	6.70217E+12	0.0164743	0.4933504	3.0454809
663	6042.19	575204		5/8/19 20:42	0.013261	0.3971227	4.81808E+13	3.0449014	6.70217E+12	0.0147002	0.440222	3.0449014
664	6049.96	575204	0.1033586	5/8/19 20:47	0.013261	0.3971227	4.81808E+13	3.048817	6.70217E+12	0.0148678	0.4452411	3.048817
665	6051.76	575205	0.1040715	5/8/19 20:52	0.013261	0.3971227	4.7865E+13	3.0698443	6.70217E+12	0.0130545	0.3909388	3.0698443

666 667 668 669	A 6054.77 6045.31	575206	C 0.1045618	D 5/8/19 20:57	0.013261	F 0.3971227	G 4.76643E+13	H	6.70217E+12	J	K	
668 669		E7E206				0.33/122/	4./0043E+13	3.084309	0./021/6+12	0.0122348	0.3663915	3.084309
669		575206	0.1043985	5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
	6042.99	575207		5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
	6038.47	575207		5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	0.1499609	3.0748598
670	6046.62	575207		5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	-0.0026668	-0.0798618	3.0790099
671	6044.8	575207		5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672 673	6048.33	575207		5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	0.2578079	3.0798806
674	6052.87 6056.61	575208 575210		5/8/19 21:32 5/8/19 21:37	0.0057558 0.0057558	0.172367 0.172367	4.70937E+13 4.72457E+13	3.1206959 3.1125773	6.70217E+12 6.70217E+12	0.0018 -0.0021614	0.053904 -0.0647267	3.1206959 3.1125773
675	6059.99	575210		5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0021014	-0.1030644	2.9351584
676	6049.69	575212		5/8/19 21:42	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0034416	-0.0453572	2.9148188
677	6056.42	575214		5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	-0.0694104	2.9383674
678	6045.27	575214		5/8/19 21:57	0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679	6041.19	575214	0.0993637	5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	0.0863842	2.9309783
680	6033.23	575215	0.0986577	5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	-0.0650352	2.9101535
681	6034.99	575215		5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	0.2822054	2.9110025
682	6042.83	575215		5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216		5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	-0.214514	2.8962791
684	6028.01	575217		5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577	6.70217E+12	-0.0043047	-0.1289114	2.9069577
685	6027.43	575217		5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	-0.0779033	2.906678
686 687	6029.94 6039.16	575217 575219		5/8/19 22:37 5/8/19 22:42	-0.0039885 -0.0039885	-0.1194423 -0.1194423	5.03487E+13 5.05528E+13	2.9078884 2.9005763	6.70217E+12 6.70217E+12	-0.0017683 -0.0018002	-0.0529547 -0.05391	2.9078884 2.9005763
688	6039.16	575221		5/8/19 22:42	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221		5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643	6.70217E+12	-0.0033323	-0.0856714	2.876643
690	6041.91	575222		5/8/19 22:57	-0.0039885	-0.1194423	5.1179E+13	2.8663937	6.70217E+12	-0.0028808	-0.1327656	2.8663937
691	6066.64	575224	0.1014592	5/9/19 0:02	-0.0060127	-0.1194423	4.92181E+13	2.9927906	6.70217E+12	-0.0044334	-0.4346519	2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694	6076.08	575225	0.1021673	5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767	6.70217E+12	-0.0231556	-0.693433	3.0136767
695	6077.05	575225	0.1021836	5/9/19 0:22	-0.0060127	-0.1800603	4.89531E+13	3.0141578	6.70217E+12	-0.0015472	-0.0463335	3.0141578
696	6056.56	575225	0.1018391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0012057	-0.0361067	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699	6061.52	575227	0.1038435	5/9/19 0:47	-0.0060127	-0.1800603	4.80475E+13	3.0631212	6.70217E+12	-0.0107209	-0.3210552	3.0631212
700	6050.01	575229	0.103384	5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0010001	0.0299497	3.0495651
701 702	6044.15	575229	0.1032838	5/9/19 0:57 5/9/19 1:02	-0.0060127	-0.1800603	4.81694E+13	3.0466114 3.0469188	6.70217E+12 6.70217E+12	-0.0040798	-0.1221764	3.0466114
702	6044.76 6039.56	575229	0.1032943 0.1032054	5/9/19 1:02 5/9/19 1:07	-0.0084514	-0.2530913 -0.2530913	4.81694E+13 4.81694E+13	3.0469188	6.70217E+12 6.70217E+12	-0.0033111 -0.0031204	-0.0991564 -0.0934456	3.0469188 3.0442977
703	6042.9	575229 575231	0.1032034	5/9/19 1:07	-0.0084514 -0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0031204	-0.0387839	3.0385906
705	6042.77	575232	0.1030113	5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	-0.0169857	3.0406489
706	6053.94	575233	0.1033545	5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	-0.3647714	3.0486951
707	6056.93	575233	0.1034055	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709	6058.16	575233	0.1034265	5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	-0.471088	3.0508202
710	6059.3	575234	0.1038084	5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	-0.6820593	3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0265233	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714 715	6070.34 6070.64	575237	0.1039744 0.1033994	5/9/19 2:02 5/9/19 2:07	-0.009959	-0.2982389	4.80568E+13 4.83264E+13	3.0669809 3.0500217	6.70217E+12 6.70217E+12	-0.0241909	-0.7244368	3.0669809 3.0500217
716	6066.1	575238 575238	0.1033994	5/9/19 2:12	-0.009959 -0.009959	-0.2982389 -0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0192845 -0.0253576	-0.5775065 -0.7593756	3.0477407
717	6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
719	6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
720	6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
721	6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724	6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
725	6054.43	575243		5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13		6.70217E+12	-0.0255341	-0.7646612	3.046431
726 727	6054.32	575244		5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	5.0 15055	6.70217E+12	-0.0035264	-0.1056039	3.049695
727	6068.65 6068.33	575246 575249	0.1006368 0.0992317		-0.0077595 -0.0077595	-0.2323712 -0.2323712	4.96368E+13 5.0337E+13	2.9685297 2.9270841	6.70217E+12 6.70217E+12	-0.0237767 -0.0227655	-0.7120329 -0.6817508	2.9685297 2.9270841
729	6063.73	575249 575250	0.0992317	5/9/19 3:13	-0.0077595	-0.2323712	5.0337E+13 5.03106E+13	2.9270841	6.70217E+12 6.70217E+12	-0.0227655	-0.7239517	2.9270841
730	6046.71	575250	0.09893	5/9/19 3:23	-0.0077595	-0.2323712	5.03106E+13	2.9203937	6.70217E+12	-0.0241747	-0.7385028	2.9181857
731	6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.0228565	-0.684476	2.933671
732	6058.26	575252	0.0992865	5/9/19 3:33	-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117215	2.9286995
733	6064.08	575252	0.0993819	5/9/19 3:38	-0.0077595	-0.2323712	5.02257E+13	2.931513	6.70217E+12	-0.0229553	-0.6874347	2.931513
734	6061.98	575252	0.0993474		-0.0077595	-0.2323712	5.02257E+13	2.9304978	6.70217E+12	-0.0218107	-0.6531578	2.9304978
735	6061.61	575252	0.0993414	5/9/19 3:48	-0.0077595	-0.2323712	5.02257E+13	2.9303189	6.70217E+12	-0.0228651	-0.6847335	2.9303189
	6055.44	575252	0.0992403	5/9/19 3:53	-0.0077595	-0.2323712	5.02257E+13	2.9273362	6.70217E+12	-0.0258057	-0.7727947	2.9273362
737	6048.17	575253	0.1013391	5/9/19 3:58	-0.0077595	-0.2323712	4.91264E+13	2.9892481	6.70217E+12	-0.0222549	-0.6664601	2.9892481
738	6036.54	575253	0.1011443	5/9/19 4:03	-0.0064119	-0.192015	4.91264E+13	2.9835001	6.70217E+12	-0.0201096	-0.6022155	2.9835001
739 740	6032.68	575254	0.1009675	5/9/19 4:08	-0.0064119	-0.192015	4.9181E+13	2.9782848 2.9801806	6.70217E+12	-0.0220837	-0.6613332	2.9782848
741	6036.52 6048.03	575254 575254	0.1010317 0.1012244	5/9/19 4:13 5/9/19 4:18	-0.0064119 -0.0064119	-0.192015 -0.192015	4.9181E+13 4.9181E+13	2.9801806	6.70217E+12 6.70217E+12	-0.0189611 -0.0284786	-0.5678217 -0.8528391	2.9801806 2.985863
741	6049.12	575254 575254	0.1012244	5/9/19 4:18 5/9/19 4:23	-0.0064119 -0.0064119	-0.192015 -0.192015	4.9181E+13 4.9181E+13	2.985863	6.70217E+12 6.70217E+12	-0.0284786	-0.8528391 -0.7944132	2.985863
743	6049.12	575254 575255	0.1012426	5/9/19 4:23	-0.0064119	-0.192015	4.9181E+13 4.84471E+13	3.0306289	6.70217E+12 6.70217E+12	-0.0220302	-0.7944132	3.0306289
744	6040.01	575255	0.102742	5/9/19 4:28	-0.0064119	-0.192015	4.84471E+13 4.84471E+13	3.0306289	6.70217E+12 6.70217E+12	-0.0220302	-0.7473849	3.0306289
745	6039.32	575256	0.1026213	5/9/19 4:38	-0.0064119	-0.192015	4.80809E+13	3.0497802	6.70217E+12	-0.0249372	-0.8189695	3.0497802
746	6037.47	575256	0.1033596	5/9/19 4:43	-0.0064119	-0.192015	4.80809E+13	3.0488459	6.70217E+12	-0.0285916	-0.8562231	3.0488459
747	6046.95	575256	0.1035219	5/9/19 4:48	-0.0064119	-0.192015	4.80809E+13	3.0536332	6.70217E+12	-0.0276954	-0.8293849	3.0536332
748	6051.57	575256	0.103601	5/9/19 4:53	-0.0064119	-0.192015	4.80809E+13	3.0559662	6.70217E+12	-0.0189461	-0.5673725	3.0559662
749	6052.41	575257	0.1025409	5/9/19 4:58	-0.0064119	-0.192015	4.85847E+13	3.0246966	6.70217E+12	-0.0213883	-0.6405083	3.0246966
750	6058.73	575257	0.102648	5/9/19 5:03	-0.001004	-0.0300665	4.85847E+13	3.027855	6.70217E+12	-0.0284985	-0.8534351	3.027855
751	6054.8	575258	0.1018989	5/9/19 5:08	-0.001004	-0.0300665	4.89101E+13	3.0057607	6.70217E+12	-0.0254371	-0.7617564	3.0057607
752	6051.38	575258	0.1018414	5/9/19 5:13	-0.001004	-0.0300665	4.89101E+13	3.0040629	6.70217E+12	-0.0222254	-0.6655766	3.0040629
753	6048.3	575258	0.1017896	5/9/19 5:18	-0.001004	-0.0300665	4.89101E+13	3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
754	6051.14	575258	0.1018373	5/9/19 5:23	-0.001004	-0.0300665	4.89101E+13	3.0039438	6.70217E+12	-0.0272051	-0.8147021	3.0039438
755	6057.19	575258	0.1019392	5/9/19 5:28	-0.001004	-0.0300665	4.89101E+13	3.0069471	6.70217E+12	-0.026005	-0.7787631	3.0069471
756	6059.15	575259 575260	0.1040181 0.1037848		-0.001004	-0.0300665	4.79481E+13	3.0682693	6.70217E+12	-0.0148258	-0.4439833	3.0682693
756 757				5/9/19 5:38	-0.001004	-0.0300665	4.80762E+13	3.0613901	6.70217E+12	-0.0244808	-0.7331184	3.0613901
757	6061.72					-U USUVEER	/ 90767E±17	3 05027	6 702175±12	-U U3/13664	_0 7202602	3 05027
	6061.72 6057.72 6057.7	575260 575260	0.1037164 0.103716	5/9/19 5:43 5/9/19 5:48	-0.001004 -0.001004	-0.0300665 -0.0300665	4.80762E+13 4.80762E+13	3.05937 3.0593599	6.70217E+12 6.70217E+12	-0.0243887 -0.0198852	-0.7303603 -0.5954955	3.05937 3.0593599

	Α	В	С	D	E	F	G	Н	1	J	K	L
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0099891	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0099891	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0099891	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18	0.0099891	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766	6035.61	575264	0.1036859	5/9/19 6:23	0.0099891	0.2991402	4.79148E+13	3.0584702	6.70217E+12	-0.0009188	-0.027515	3.0584702
767	6032.26	575264	0.1036283	5/9/19 6:28	0.0099891	0.2991402	4.79148E+13	3.0567726	6.70217E+12	-0.0017763	-0.0531943	3.0567726
768	6035.08	575266	0.1012996	5/9/19 6:33	0.0099891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0029613	-0.0886811	2.988081
769	6038.27	575266	0.1013531	5/9/19 6:38	0.0099891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:43	0.0099891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.0099891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.0099891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773 774	6038.62	575269	0.1004467	5/9/19 6:58	0.0099891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
775	6023.18 6018.06	575269 575270	0.1001899 0.100393	5/9/19 7:03 5/9/19 7:08	0.015734 0.015734	0.4711809 0.4711809	4.94846E+13 4.93426E+13	2.9553477 2.9613379	6.70217E+12 6.70217E+12	-0.0127165 -0.0057831	-0.3808168 -0.1731846	2.9553477 2.9613379
776	6028.56	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13 4.93426E+13	2.9613379	6.70217E+12 6.70217E+12	-0.0057831	-0.1731846	2.9613379
777	6023.05						4.95649E+13	2.9665047	6.70217E+12 6.70217E+12		-0.035379	2.9665047
778	6002.6	575271 575271	0.1000255 0.0996859	5/9/19 7:18 5/9/19 7:23	0.015734 0.015734	0.4711809 0.4711809	4.95649E+13	2.9505	6.70217E+12 6.70217E+12	-0.0018878 -0.0019315	-0.057842	2.9505
779	6004.55	575271	0.0996859	5/9/19 7:28	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12 6.70217E+12	-0.0019315	-0.057842	2.9404822
780	6023.65	575271 575271	0.0997183	5/9/19 7:28 5/9/19 7:33	0.015734	0.4711809	4.95649E+13 4.95649E+13	2.9414374	6.70217E+12 6.70217E+12	-0.0032781	-0.0981682	2.9414374
781	6022.52	575271	0.1000355	5/9/19 7:33 5/9/19 7:38		0.4711809	4.95649E+13 4.9235E+13	2.9507939	6.70217E+12 6.70217E+12			
782	6016.76	575272 575272	0.1006869	5/9/19 7:38 5/9/19 7:43	0.015734 0.015734	0.4711809	4.9235E+13 4.9235E+13	2.9700094	6.70217E+12 6.70217E+12	-0.0183056 -0.004465	-0.5481917 -0.1337119	2.9700094 2.9671688
783	6007.87	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13 4.9235E+13	2.9671688	6.70217E+12 6.70217E+12	-0.004465	-0.1337119	2.9671688
784	5998.51	575272	0.100442	5/9/19 7:48 5/9/19 7:53	0.015734	0.4711809	4.9235E+13 4.9235E+13	2.9527847	6.70217E+12 6.70217E+12	-0.0011594	-0.0584709	2.9527847
785	6004.67	575272	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.0019323	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 7:38	0.013734	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.016446	-0.6785226	2.9953265
787	5966.01	575273	0.1013432	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9955265	6.70217E+12	-0.0226377	-0.1214307	2.9933263
788	5975.72	575273	0.1011922	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.0088876	0.266154	2.9849149
789	5974.19	575273	0.1013369	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.101331	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1778742	3.0130416
791	5989.1	575275	0.1021438	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130410	6.70217E+12	0.0001868	0.005594	3.0130410
792	5990.38	575275	0.1021440	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794	6009.99	575276	0.1040749	5/9/19 8:43	0.0212738	0.6370794	4.75331E+13	3.0699468	6.70217E+12	0.0020113	0.0113528	3.0699468
795	6015.23	575276	0.1041657	5/9/19 8:48	0.0212738	0.6370794	4.75331E+13	3.0726234	6.70217E+12	0.0045541	0.1363801	3.0726234
796	6006.59	575276	0.1040161	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1041108	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154138	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02	575281	0.1036011	5/9/19 9:38	0.021087	0.6314854	4.7711E+13	3.0559695	6.70217E+12	0.0148862	0.4457921	3.0559695
806	5992.86	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854	4.7711E+13	3.0497812	6.70217E+12	0.019156	0.5736583	3.0497812
807	6001.7	575281	0.1035438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13	3.0542799	6.70217E+12	0.0155476	0.4655988	3.0542799
808	5996.77	575281	0.1034587	5/9/19 9:53	0.021087	0.6314854	4.7711E+13	3.051771	6.70217E+12	0.0127646	0.3822572	3.051771
809	5997.26	575281	0.1034672	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.01036	0.3102475	3.0520204
810	5995.19	575281		5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	-0.0001443	-0.0043213	3.050967
811	5995.19	575281		5/9/19 10:08	0.0217322	0.6508069	4.7711E+13	3.050967	6.70217E+12	0.0134747	0.4035223	3.050967
812	5978.15	575281		5/9/19 10:13	0.0217322	0.6508069	4.7711E+13	3.0422953	6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281		5/9/19 10:18	0.0217322	0.6508069	4.7711E+13	3.0480408	6.70217E+12	0.016155	0.4837884	3.0480408
814	6001.74	575282		5/9/19 10:23	0.0217322	0.6508069	4.61352E+13	3.158626	6.70217E+12	0.0174376	0.522198	3.158626
815	6010.06	575282		5/9/19 10:28	0.0217322	0.6508069	4.61352E+13	3.1630047	6.70217E+12	0.0234385	0.7019049	3.1630047
816	6009.71	575283		5/9/19 10:33	0.0217322	0.6508069	4.58431E+13	3.1829698	6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283		5/9/19 10:38	0.0217322	0.6508069	4.58431E+13	3.1755655	6.70217E+12	0.019624	0.5876734	3.1755655
818	6000.73	575284		5/9/19 10:43	0.0217322	0.6508069	4.63618E+13	3.142657	6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284		5/9/19 10:48	0.0217322	0.6508069	4.63618E+13	3.1462654	6.70217E+12	0.0184275	0.5518422	3.1462654
820	6006.48	575284		5/9/19 10:53	0.0217322	0.6508069	4.63618E+13	3.1456683	6.70217E+12	0.0226632	0.6786873	3.1456683
821	5999.23	575284		5/9/19 10:58	0.0217322	0.6508069	4.63618E+13	3.1418714	6.70217E+12	0.2007318	6.0112483	6.0112483
822	6004.02	575284		5/9/19 11:03	0.0217961	0.6527205	4.63618E+13	3.14438	6.70217E+12	0.0307427	0.9206414	3.14438
823	6000.99	575284		5/9/19 11:08	0.0217961	0.6527205	4.63618E+13	3.1427931	6.70217E+12	0.0293874	0.8800547	3.1427931
824	6003.38	575284		5/9/19 11:13	0.0217961	0.6527205	4.63618E+13	3.1440448	6.70217E+12	0.0349274	1.0459592	3.1440448
825	6014.88	575284		5/9/19 11:18	0.0217961	0.6527205	4.63618E+13	3.1500675	6.70217E+12	0.0260766	0.7809072	3.1500675
826	6026.81	575284	0.1070029	5/9/19 11:24	0.0217961	0.6527205	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154



Meanage

From Austin Storens (austin@bearpook.iu)

en behalf ប" Austin Storms នេយ្យវេញប្រែearbox បេក (austin@bearbox បេ

Sent: 8/10/9610 5:08 48 PM

To: ikajiv Pate ij Kiratei@fermick.com); Michael bicksteden Msacksteder@ferwick.com)

Subject: Fund: BearBit = 211" groduct details and supporting documentation

"Masteriants" Bear Sea, Product Details 5, immirry v1.pdf, Permotion 2 per _Slicet pall, Lurat 1-5.55 - Street par .

lenge Siler Enset pdf exelond more my 05092019 #466



Austria M. Marms

If INFILLENT LALITY NOTICE This enter commonication may contain private, confidential or legally privileses information intended for the sole use of the designates accorded cumborized recipient of lake received this emuliar error, please unite the sender immediately by emuliand performently delete all copies of this count including all automorals without reading them. If you me the mental recipient, secure the contents in a matter that estations to all applicable state and/or leavers) requirements related to privacy and confidentially of such information.

- I drivanded (nessage -

From Anstro Storms Sensting bearboom

Date: Flui, May 9, 2019 at 11-32 A.M.

Subject: BearBox 20 product details and supporting documentaling

To: "michael meusmana allananan com-

Hey Michael

See strached for the 70' Bear Pox product datails and some supporting data. I've also attached some recent modeling data from one of the Excton wind kites (based on publishy available marketplace data) - rear model for an ignoring and a you guys might be microstical in reviewing.

1 = no know if you have any questions*

Julk saco

3

Augun M. Storms
Bear BY LL:
Off O Keets Avenue
Mew Programs T.A. Torro
summer/Absorbox./o

FORMUPENTIAL OF VINCIDE This email communication may contain private, confidential, or legality

Bearbox v Lancium
Trial Exhibit **TX906**

privileged information intended for the sole use of the designated and/or duly authorized recipient(s). If you are not the intended recipient or have received this email in error, please notify the sender immediately by email and permanently delete all copies of this email including all autachments without reading them. If you are the intended recipient, secure the contents in a manner that conforms to all applicable state and/or federal requirements related to privacy and confidentiality of such information.



BearBox

Product details BoarBox V205 (Bitmain 55), Enagonnim TL, or nimitar)

Physical Dimensions

- Externim 20/Ex 8/ Wxx8/6/H
- 7 Imenor 192" 1 a 702"W a 7"E 11"
- Draw Carering, 7'8"W & 7'7"H
- Weight 4/800 fbx installed equationent.

Electrical System

- ... 3-Phase 4 Wire 4)57/340v
- Remore dust-pullet control PD(L)(M-Slob) total).
- All network in trustrictine on NPS/Battery hacker.
- ... "37M/W they lived

.. Physical Rack System

- Outlow laser at gluminum trame with steinless wile dectinerying
- Adjustable or 1' increments.

- Coaling System

- a Convertourity reliati
- ... (k) 10,000 MV direct drive, lingle-titles exhaust rags (see all aches).
- . Tempe wurd spiranifed/sphwere automation, remote any aff

- Air Filtration (Vision)

- Option 1. Fe matter Model U2 (see attached)
- Op ium 2. Om fit V:Bank Slide/flack (see sitached)
- Intaks ade injurtable pitels weather shield

4 I mai Designed fashrate

- 272 minutes @ 14.5 TH, search;
- POPE/scoral

- Network

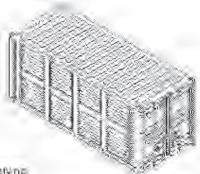
- a CarSe office net
- 18-port unmenagoul synches (if ISCN, TP LINK in some)
- a Chronic WAR or ratellitic langer y foreshing.

Software Management

- in I brail of miner Wareling
- . Promyres all throb memmer logging
- FDUA stay reapping (foll-autoreaters)
- Opported the president months and the several part of the control of the control
- Will show each (misert, telow), and montenen employed.

- OFFITTING

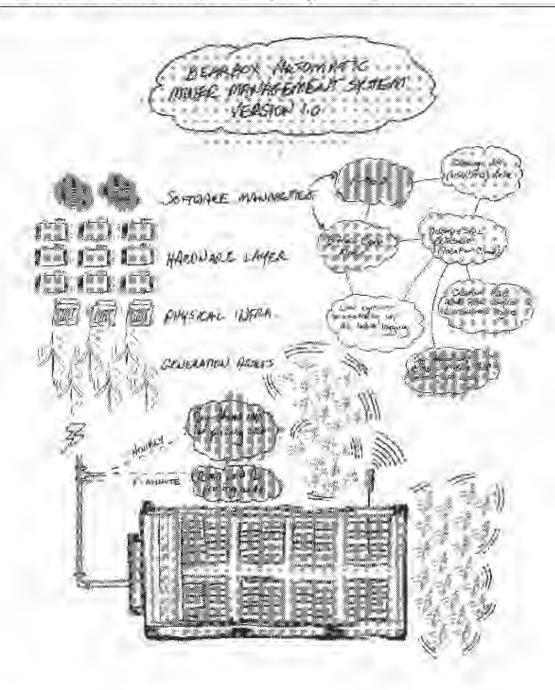
- DearBur (/TDS (3.9 PH/4 / ~373HW mai load)
- Oney NOT monitor miner: or exportor electrical inhastor ture in anythmost.
- Frace Ship TUL51 (Shi) May 34 dF = 9.1% rules fire!







Product details BoarBox V265 (Bitmain SS), Dragonimint T1, or Hinlar) - cont



Case: 23-1922 Document: 39-7 Page: 230 Filed: 01/02/2024



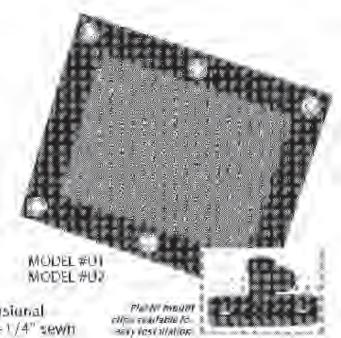
Prevent® Model U/BHA Flexible Frame Air Intake Filter

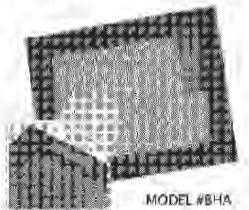
Acts as a primary pre-filtration defense to help prevent the damage and extensive maintenance that large volumes of thit and debris can cause, Model U and BHA are custom designed and manufactured to fit any sized air intake.

Model U filter is constructed of washable three-dimensional electrostatic polypropylene media and encased in a 1-1/4" sewn vinyl edge with single or double stitching. Model U1 contains one layer of media or Model U2 contains two layers of media depending on the application's environmental particle size.

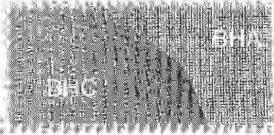
Model BHA filter is constructed of black PVC coated polyester. high abrasion media and encased in a 1-1/4" sewn vinyl edge. with single or double stitching. Model BHA contains one layer of media.

- Can be affixed to unit with huok they arrivaling, grommers with mount clips, elastic bunges hooks or magnetic stripping
- Fits any equipment, specify size
- Sewn 2.5" vinyl edge (folder) to 1-1.1" is standard for Hexible filters 0-2000 square inches
- Some welded edges also available as frame option.
- UV protected black media.
- U/L Classified as to Flammacility Only
- 5 Year Werranty





Magnetic stripping inside vinyl edge nvallanle for easy irrelation

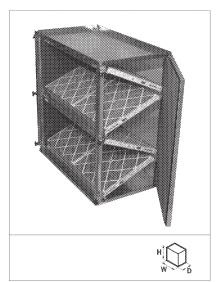


		0	医动脉 医医睫状皮肤 医皮肤	三、生物基金多数 医高温度	X * *
		. */	美生产1115 F F F 7 7	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	# × ×
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	Ava. Arrestance Ellicency	42%	72%	N/A	
	111111111111111111111111111111111111111			13.6	5
411111111	Dust Holding Capacity	67 gm	i 00 um	N/A	
				A CONTRACTOR OF THE PARTY OF TH	
	Initial Air Flow Resistance	0.02 w.a 0	1.05° w ti - 0.02	W.G.	
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Filter Frames & Housings

Housings (ASHRAE)

V-Bank Glide/Pack®



Advantages

- V-bank design reduces filter velocity and filter pressure drop by up to 60%, saving energy
- Increases life of filters up to four times

Typical applications: Single-stage V-bank filter housing for commercial, industrial, manufacturing or medical facilities.

Construction: 16-gauge galvanized steel with pre-drilled standing flanges, dual access doors, UV-resistant door knobs, door and filter sealing gasketing.

Filters: Any 2" deep filter.

Performance: Less than 1/2 of 1% leakage guaranteed. Rated airflow 500 fpm, may be operated to 625 fpm. Standard model operational to \pm 6.0° w.g.

Additional data: Sizes available from 4 filters high to 6 filters wide. Housing is weatherproof for outside installation without modification. Includes pneumatic fitting for static pressure gauge.

See Literature 2421 for more details.

Dimensions and Airflow Capacity (cfm)

Number of Literature		File vide	Tiller Vide	Files Wile	Filters	Filters wide	l ne vide	Files	Fig. 1	d de Filoso Aide	Filters wide	Files Files	Filters Wide	
1/2	15.25	-	2,000	-	4,000	-	6,000	-	8,000	-	10,000	-	12,000	
1	27.25	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	
1-1/2	39.50	-	6,000	-	12,000	-	18,000	-	24,000	-	30,000	-	36,000	
2	51.50	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	00.00
2-1/2	63.75	-	10,000	-	20,000	-	30,000	-	40,000	-	50,000	-	60,000	28.00
3	75.75	6,000	12,000	18,000	24,000	30,000	36,000	42,000	48,000	54,000	60,000	66,000	72,000	
3-1/2	88.00	-	14,000	-	28,000	-	42,000	-	54,000	-	70,000	-	84,000	
4	100.00	8,000	16,000	24,000	32,000	40,000	48,000	56,000	60,000	72,000	80,000	88,000	96,000	
	Wilder Ferenger	10	9.6	28	40	66	70	6.4	06	1700	100	120	1.4.4	





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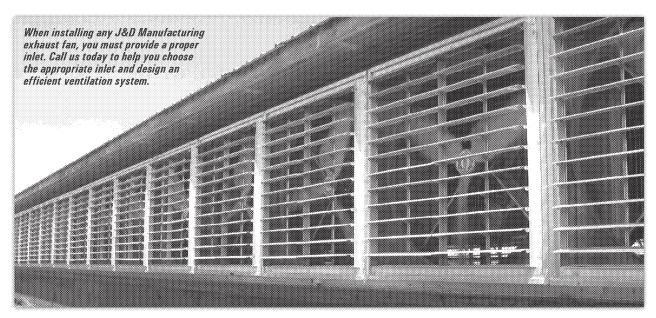
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Total System Solutions



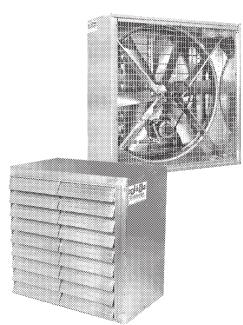
Wall Master Exhaust Fan

J&D Manufacturing's Wall Master exhaust fan offers high volume output and smooth, efficient operation. The heavy duty 18 gauge galvanized housing is strong, compact, and easy to install. J&D's Wall Master is a dependable fan suited for nearly any application including agricultural buildings, greenhouses, and warehouses.



Features

- * Available in 36" and 50" models
- · Heavy duty 18 gauge galvanized housing
- · Rugged X-frame for added stability on belt drive models
- · Aluminum shutters with tie bar to prevent flapping and locking open
- 1" x 2" removable wire mesh guards are hot dip galvanized after welding
- · Poly guard clips to reduce vibration for quiet performance
- 3, 4 or 6 blade galvanized propeller is balanced for smooth operation
- Lifetime Warranty on 3 blade cast aluminum props, available on select 50" models
- Bearings are eccentric locking, pre-lubricated, permanently sealed and rubber mounted for smooth operation and reduced blade fatigue, and are covered by a Three Year Warranty
- . Spring belt tensioning system reduces bounce at startup on all belt driven models
- Optional weather hood available for protection from severe wind and weather
- Totally enclosed, maintenance-free, high-efficiency motors have completely sealed ball bearings, and are covered by a Two Year Warranty

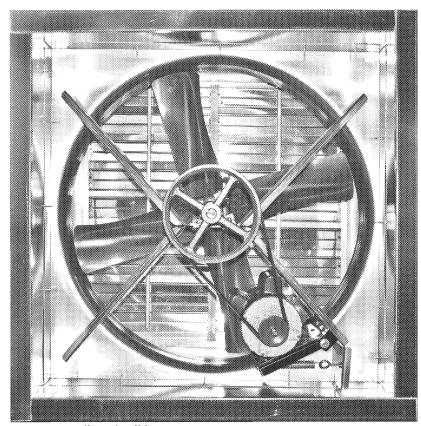


△WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

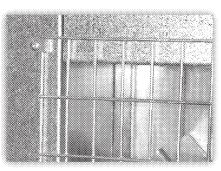
Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

___J&D___ Manufacturing

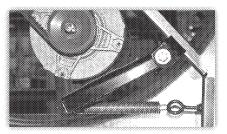
Wall Master Exhaust Fan



Heavy-duty X-frame · (Shown without rear guard for illustration purposes only)



Removable 12 Gauge 1" x 2" wire mesh guards are hot dip galvanized after welding. The guard is attached to the housing with poly guard clips to reduce noise and vibration.



Belt drive models include a heavy duty spring belt tensioner to reduce bounce at startup and provide uniform loading to increase the life of the belt and maintain high efficiency.

				@0.05	5" SP		
					CFM/		
Part#	Size	Phs	Spd	CFM	Watt	Drive	Prop
Single Phase	***********						
VF36DM	36"	1	1	10,100	19.5	Direct	3-Glv
VF36GG	36"	1	1	9,000	18.1	Belt	4-Glv
VF36GG1	36"	1	1	11,500	15.2	Belt	4-Glv
VF36GG2	36"	1	2	11,400	15.3	Belt	4-Glv
VF50GG	50"	1	1	21,000	18.9	Belt	3-Glv
VF50GG6	50"	1	1	21,300	20.0	Belt	6-Glv
VF50GGCA	50"	1	1	20,900	18.8	Belt	3-CA
Three Phase							
VF36DM3CF	36"	3	1	10,000	19.6	Direct	3-Glv
VF36GG3	36"	3	1	11,400	15.1	Belt	4-Glv
VF503GG	50"	3	1	21,000	18.9	Belt	3-Glv
VF503GG6	50"	3	1	21,200	20.2	Belt	6-Glv
VF503GGCA	50"	3	1	20,900	18.8	Belt	3-CA
OSHA requires	thes	e fan	s to b	e mount	ed 7' al	bove th	e floor

Fan Size	Rough Opening
36"	41"W x 41"H
50"	5434"W x 5434"H

Optional Weather Hood

If Wall Master is mounted with the shutter side of the fan flush to an exterior wall a weather hood may be used on the exterior shutter side of the Wall Master to further protect the fan and shutter from severe winds and harsh weather.

***************************************	Wall Master Fan Size	Weather Hood Part#
	36"	VFT140860
	50"	VFT140861

△WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/product.

Due to our continual effort to provide the best products available and adhere to market conditions; literature, products, prices and availability are subject to change without notice.

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Filed: 01/02/2024

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~		0.4598488	0.4382991	0.121291	0.1826636	0.1762466	0.3056996	0.2248472	0.3114854	0.2663903	0.1665995	0.0532044	0.1499321	0.2229103	0.5358437	0.3340499	0.5435168	0.1266776	0.1919889	0.1877223	0.1535862	0.298933	0.2931534	0.3023364	0.3501016	-0.1885762	0.0100029	0.0892681	0.2054756	0.1836506	-0.0350983	0.0058941	0.0087653	0.0786062	0.0508932	0.1274047	-0.0005879	-0.0062746	0.007144	0.4049087	0.3803547	0.2759631	0.0660724	-0.0560942	-0.0114726	0.1925737	0.3589442	0.0303614	-0.4993933	-0.5405466	-0.541/13	-0.1190045
	_time_LMP rea	0.0148626	0.0141661	0.0039202	0.0059038	0.0056964	0.0098804	0.0072672	0.0100674	0.0086099	0.0053846	0.0017196	0.0048459	0.0072046	0.0173188	0.0107967	0.0175668	0.0040943	0.0062052	0.0060673	0.004964	0.0096617	0.0094749	0.0097717	0.0113155	-0.0060949	0.0003233	0.0028852	0.0066411	0.0059357	-0.0011344	0.0001905	0.0002833	0.0025406	0.0016449	0.0041178	-0.000019	-0.0002028	0.0002309	0.0130869	0.0122933	0.0089193	0.0021355	-0.001813	-0.0003708	0.0062241	0.0116013	0.0009813	-0.0161407	-0.0174708	-0.0175085	-0.0038463
T	network_diff real_	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6./021/E+12	6.70217E+12
7		2.5240987	2.5294123	2.5309305	2.5285442	2.5485671	2.5537859	2.5331438	2.5208339	2.5220451	2.4761856	2.4668388	2.467051	2.4742634	2.4842862	2.4841428	2.4809927	2.4793025	2.5032013	2.5061798	2.5070672	2.4980119	2.4971748	2.4951937	2.4951937	2.5248113	2.5273078	2.540262	2.5431267	2.4959076	2.4822846	2.4811757	2.4861744	2.4976517	2.5026242	2.5027159	2.501607	2.5046935	2.5022793	2.5006204	2.5064223	2.5061123	2.6416525	2.6397319	2.6484528	2.6510673	2.6885453	2.6821375	2.6815363	2.6894587	2./14/56	2.7091749
	-	5.12496E+13	5.10957E+13	5.10957E+13	5.10957E+13	5.07124E+13	5.06841E+13	5.11063E+13	5.14281E+13	5.14174E+13	5.23232E+13	5.25149E+13	5.25149E+13	5.25149E+13	5.23541E+13	5.23541E+13	5.23541E+13	5.23541E+13	5.17812E+13	5.17812E+13	5.17812E+13	5.19018E+13	5.19018E+13	5.19018E+13	5.19018E+13	5.13013E+13	5.13013E+13	5.1027E+13	5.09307E+13	5.18232E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	5.21069E+13	4.9508E+13	4.9508E+13	4.9508E+13	4.9508E+13	4.88133E+13	4.88133E+13	4.88133E+13	4.88133E+13	4.82994E+13	4.82994E+13
_		0.8726101	0.8726101	0.8726101	0.8726101	0.8726101	0.8726101	0.8726101	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.7591779	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.58437	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.5976463	0.7464306	0.7464306	0.7464306	0.7464306	0.7464306	0.7464306	0.7464306	0.7464306	0.7464306
٦		0.0282033	0.0282033	0.0282033	0.0282033	0.0282033	0.0282033	0.0282033	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371	0.0245371		0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0188872	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0193163	0.0241251	0.0241251	0.0241251	0.0241251	0.0241251	0.0241251	0.0241251	0.0241251	0.0241251
	datetime	28 5/6/19 16:28	71 5/6/19 16:33	69 5/6/19 16:38		57 5/6/19 16:48	69 5/6/19 16:53	96 5/6/19 16:58	56 5/6/19 17:03	54 5/6/19 17:08	06 5/6/19 17:13	39 5/6/19 17:18		75 5/6/19 17:28	64 5/6/19 17:33	17 5/6/19 17:38		29 5/6/19 17:48	71 5/6/19 17:53			68 5/6/19 18:09	93 5/6/19 18:14			62 5/6/19 18:29	81 5/6/19 18:34			77 5/6/19 18:49				55 5/6/19 19:09								26 5/6/19 19:50		17 5/6/19 20:00		89 5/6/19 20:10	87 5/6/19 20:15	85 5/6/19 20:20	_			56 5/6/19 20:40
	breakeven_mining_cost	0.0828228	0.0829971	0.0830469	0.0829686	0.0836257	0.0837969	0.0831196	0.0827156	0.0827554	0.0812506	0.0809439	0.0809509	0.0811875	0.0815164	0.0815117	0.0814083	0.0813529	0.0821371	0.0822348	0.0822639	0.0819668	0.0819393	0.0818743	0.0818743	0.0828462	0.0829281	0.0833531	0.0834471	0.0818977	0.0814507	0.0814144	0.0815784	0.081955	0.0821181	0.0821211	0.0820848	0.082186	0.0821068	0.0820524	0.0822428	0.0822326	0.08668	0.086617	0.0869032	0.086989	0.0882187	0.0880085	0.0879887	0.0882487	0.0890788	0.0888956
8	_	574898	574899	574899	574899	574901	574902	574903	574904	574905	574906	574907	574907	574907	574908	574908	574908	574908	574909	574909	574909	574910	574910	574910	574910	574911	574911	574912	574913	574914	574915	574915	574915	574915	574915	574915	574915	574915	574915	574915	574915	574915	574916	574916	574916	574916	574917	574917	574917	574917	5/4918	574918
		5686.59	5681.45	5684.86	5679.5	5681.53	5689.99	5691.01	5699.02	5700.57	5695.51	5694.8	5695.29	5711.94	5717.52	5717.19	5709.94	5706.05	5698.01	5704.79	5706.81	5699.44	5697.53	5693.01	5693.01	5693.94	5699.57	5698.15	5693.81	5686.01	5685.94	5683.4	5694.85	5721.14	5732.53	5732.74	5730.2	5737.27	5731.74	5727.94	5741.23	5740.52	5749.19	5745.01	5763.99	5769.68	5769.14	5755.39	5754.1	5771.1	5/64.05	5752.2
1		23	24	55	99	57	28	59	09	61	62	63	64	65	99	29	89	69	20	71	72	73	74	75	9/	77	78	79	80	81	82	83	8	82	98	87	88	68	8	91	95	93	94	92	96	26	86	66	100	101	102	103

	А	U	۵	П	L	9	I	_	ſ	¥	٦
BTC	price block_heig	BTC_price block_height breakeven_mining_cost	dateti	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev r	realized_rev
2	5755.49 574	574918 0.0889465	465 5/6/19 20:45	5 0.0241251	0.7464306	4.82994E+13	2.7107244	6.70217E+12	-0.0004318	-0.0133599	2.7107244
5	5762.02	574919 0.0902091	091 5/6/19 20:50	0.0241251	0.7464306	4.76774E+13	2.7492027	6.70217E+12	0.0004104	0.0126978	2.7492027
	5760.7 574	574919 0.0901884	884 5/6/19 20:55	5 0.0241251	0.7464306	4.76774E+13	2.7485729	6.70217E+12	-0.0009508	-0.0294178	2.7485729
5	5762.49	0.0902164	164 5/6/19 21:02	2 0.0175071	0.5416697	4.76774E+13	2.749427		0.0007073	0.0218839	2.749427
5	5774.99 574	574920 0.1001885	885 5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
5	5844.99 574	574922 0.1031216	216 5/6/19 21:44		0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
2	5844.99 574	574922 0.1031216	216 5/6/19 21:44	4 0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
2	5844.99 574	574922 0.1031216	216 5/6/19 21:45	5 0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
5	5844.99 574	574922 0.1031216	216 5/6/19 21:45	5 0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
5	5843.89 574	574923 0.1041911	911 5/6/19 21:52	2 0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
5	5889.14 574	574923 0.1049979	979 5/6/19 21:57	7 0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
5	5938.96	574925 0.1060149	149 5/6/19 22:02	2 0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
5	5924.06 574	574925 0.105749		7 0.0137884	0.4129166	4.61118E+13	3.1193265	6.70217E+12	-0.0183554	-0.549683	3.1193265
	5904.4 574	574925 0.105398		5 0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
	5904.4	574925 0.105398	398 5/6/19 22:16	6 0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
5	5906.55	574925 0.1054364	364 5/6/19 22:16		0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
5	5906.55	574925 0.1054364	364 5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
5	5906.55	574925 0.1054364	364 5/6/19 22:16	6 0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
5	5906.55	574925 0.1054364	364 5/6/19 22:16	6 0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
5	5900.68	574927 0.1057464	464 5/6/19 22:23	3 0.0137884	0.4129166	4.59309E+13	3.119251	6.70217E+12	0.0035913	0.1075475	3.119251
5	5904.02	574929 0.1030516	516 5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
5	5904.02	574929 0.1030516	516 5/6/19 22:30		0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
	5898.4	574930 0.1031447	447 5/6/19 22:35	5 0.0137884	0.4129166	4.70713E+13	3.0425064	6.70217E+12	-0.0289922	-0.8682197	3.0425064
5	5893.05	574930 0.1030511	511 5/6/19 22:37	7 0.0137884	0.4129166	4.70713E+13	3.0397468	6.70217E+12	-0.0289922	-0.8682197	3.0397468
5	5897.36	574930 0.1031265	265 5/6/19 22:42	0.0137884	0.4129166	4.70713E+13	3.04197	6.70217E+12	-0.0236925	-0.7095114	3.04197
5	5899.22	574931 0.1032757	757 5/6/19 22:47	7 0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
			156 5/6/19 22:52			4.70181E+13	3.0475484		-0.0215767	-0.6461502	3.0475484
2			נים			4.71645E+13	3.0347496		-0.0188905	-0.5657075	3.0347496
2						4.8263E+13	2.9595589		-0.002652	-0.0794186	2.9595589
2						4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
						4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
2		0				4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
2						4.75743E+13	3.0167951	6.70217E+12	-0.0190565	-0.5706787	3.0167951
2	5885.39 574	574945 0.1028414	414 5/7/190:27	7 0.0098383	0.2946243	4.71059E+13	3.0335618	6.70217E+12	-0.005721	-0.1713249	3.0335618
5						4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
5		574945 0.1030455			0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
5			707 5/7/19 0:42			4.71059E+13	3.0403243	6.70217E+12	0.0000416	0.0012458	3.0403243
2	5901.99	574945 0.1031315	315 5/7/19 0:47	7 0.0098383	0.2946243	4.71059E+13	3.0421181	6.70217E+12	0.0002217	0.0066392	3.0421181
Ŋ	5889.59	574946 0.1043197	197 5/7/19 0:52	0.0098383	0.2946243	4.64716E+13	3.0771656	6.70217E+12	-0.0026672	-0.0798737	3.0771656
5	5889.01	574947 0.1040736	736 5/7/19 0:57	7 0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0003307	+806600.0-	3.0699085
5	5877.69	574947 0.1038736	736 5/7/19 1:02	2 0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
5	5889.43 574	574948 0.1042298	298 5/7/19 1:07	7 0.0105202	0.3150449	4.65104E+13	3.0745154	6.70217E+12	-0.0001362	-0.0040787	3.0745154
5	5887.99	574948 0.1042043	043 5/7/19 1:12	2 0.0105202	0.3150449	4.65104E+13	3.0737637	6.70217E+12	0.0091898	0.2752039	3.0737637
	5867.4	574948 0.1038399	399 5/7/19 1:17	7 0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
5	5883.85	574950 0.1044213	213 5/7/19 1:22	2 0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
5	5871.24 574	574950 0.1041975	975 5/7/19 1:27	7 0.0105202	0.3150449	4.63811E+13	3.0735621	6.70217E+12	0.0110652	0.3313659	3.0735621
5		574950 0.1041817	817 5/7/19 1:32	2 0.0105202		4.63811E+13	3.0730962	6.70217E+12	0.0117356	0.3514421	3.0730962
5			362 5/7/19 1:37	7	0.3150449	4.63811E+13	3.0784149	6.70217E+12	0.0114298	0.3422844	3.0784149
5						4.58839E+13	3.1155019		0.0158031	0.4732502	3.1155019
5	5888.94 574	574951 0.1056441	441 5/7/19 1:47	7 0.0105202		4.58839E+13	3.1162321	6.70217E+12	0.0139082	0.4165042	3.1162321
Ŋ	5890.07	574951 0.1056643	643 5/7/19 1:52	2 0.0105202	0.3150449	4.58839E+13	3.1168301	6.70217E+12	0.0141407	0.4234668	3.1168301

	block height 1574952 574954 574954 574954 574954 574956 574956 574956 574956 574956 574959 574950 574950 574950 57496		6/7/19 1:57 5/7/19 2:07 5/7/19 3:07 5/7/19 3:07	day_ahead_LMP	day_ahead_LMP_rev 0.3150449 0.3407332 0.3407332	est_network_hashrate r 4.56692E+13 4.57927E+13	3.1303483 3.117579 3.0770561	network_diff 6.70217E+12 6.70217E+12	real_time_LMP 0.0129154 0.0142018	real_time_LMP_rev 0.3867732 0.4252966	realized_rev 3.1303483 3.117579
887.93 887.97 887.01 887.01 887.01 885.94 5865.94 5865.94 5865.94 5865.01 5877.6 887.16 5877.6 5877.6 5877.6 5877.6 5877.7 5877.6 5877.7 5888.03 5887.1 5888.03 58888.03 5888.03 5888.03 5888.03 5888.03 5888.03 5888.03 58888.03 5888.03 5888.03 5888.03 5888.03 5888.03 5888.03 58888.03 58888.03 588889.03 5888.03 5888.03 5888.03 5888.03 5888.03 5888.03 5888	574952 574954 574954 574954 574956 574956 574956 574956 574959 574960 574960	0.1061226 0.1056897 0.1043159 0.1043182 0.1044686 0.1034201 0.1034201 0.103533 0.103533 0.105538 0.1055726 0.1055726 0.1055726 0.1055726 0.1055871 0.1055676 0.1055676 0.1055676 0.1055676 0.1055676 0.1055676 0.105576	5/7/19.157 5/7/19.202 5/7/19.202 5/7/19.203 5/7/19.212 5/7/19.212 5/7/19.223 5/7/19.232 5/7/19.237 5/7/19.237 5/7/19.237 5/7/19.237 5/7/19.3302 5/7/19.333 5/7/19.333	0.0105202 0.010378 0.011378 0.011378 0.011378	0.3150449 0.3407332 0.3407332	4.56692E+13 4.57927E+13	3.1303483 3.117579 3.0770561	6.70217E+12 6.70217E+12			3.1303483
880.57 880.52 880.52 873.01 871.85 885.94 885.01 885.01 887.74 888.03 888.03 888.03 888.04	574953 574954 574954 574956 574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1056897 0.1043159 0.1042182 0.1044686 0.1034201 0.1035275 0.1035275 0.1035275 0.1035275 0.1035275 0.1035275 0.1035272 0.1054291 0.1054291 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054269 0.1054769 0.1054769 0.1054769	5/7/19.202 5/7/19.202 5/7/19.207 5/7/19.212 5/7/19.222 5/7/19.222 5/7/19.232 5/7/19.232 5/7/19.232 5/7/19.232 5/7/19.232 5/7/19.232 5/7/19.332 5/7/19.332 5/7/19.332 5/7/19.333	0.011378 0.011378 0.011378 0.011378 0.011378	0.3407332	4.57927E+13	3.117579	6.70217E+12			3.117579
880.52 8875.01 8875.01 8871.01 8871.01 8865.94 5869.1 5877.6 8877.18 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.11 8882.93 8880.1	574954 574954 574956 574956 574956 574956 574958 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1043159 0.1042182 0.1041932 0.1044686 0.103617 0.103617 0.1035275 0.1057333 0.105738 0.1056328 0.105429 0.105429 0.105429 0.105429 0.105429 0.105429 0.105429 0.105429 0.105429 0.105479 0.105479	5/7/19 2:07 5/7/19 2:07 5/7/19 2:12 5/7/19 2:27 5/7/19 2:37 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 3:07 5/7/19 3:12 5/7/19 3:12	0.011378 0.011378 0.011378 0.011378 0.011378	0.3407332		3.0770561				
8875.01 5873.6 8871.85 8871.01 8859.85 885.94 5877.6 5877.6 8875.74 8880.11 8880.11 8875.74 8875.74 8876.48 8868.65 8876.48 8868.98 8868.98 8868.98	574954 574954 574956 574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1042182 0.1041932 0.104686 0.103617 0.103617 0.1035275 0.1035333 0.1057383 0.1056328 0.1055489 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799	5/7/19 2:12 5/7/19 2:12 5/7/19 2:27 5/7/19 2:37 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 2:42 5/7/19 3:02 5/7/19 3:12 5/7/19 3:12 5/7/19 3:12 5/7/19 3:12	0.011378 0.011378 0.011378 0.011378	(((1)))	4.64017E+13		6.70217E+12	0.0139436	0.4175643	3.0770561
\$873.6 \$871.85 \$871.85 \$859.85 \$859.14 \$877.18 \$887.18 \$880.11 \$887.44 \$875.44 \$875.44 \$875.44 \$876.48 \$876.48 \$868.65 \$875.48 \$876.48 \$876.48	574954 574955 574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960	0.1041932 0.1044686 0.103617 0.103617 0.103733 0.1037333 0.105728 0.105728 0.105726 0.105479 0.105479 0.105479 0.105479	5/7/19.2:17 5/7/19.2:22 5/7/19.2:22 5/7/19.2:37 5/7/19.2:42 5/7/19.2:42 5/7/19.2:42 5/7/19.2:42 5/7/19.2:42 5/7/19.3:22 5/7/19.3:22 5/7/19.3:22 5/7/19.3:22 5/7/19.3:22	0.011378 0.011378 0.011378	0.340/332	4.64017E+13	3.074173	6.70217E+12			3.074173
8871.85 8871.01 8859.85 8865.94 5865.94 5877.18 5887.18 5887.16 5875.44 5875.46 5875.44 5876.76 5876.46 5876.48 5876.48 5876.48 5876.93 5876.93 5876.93 5876.93 5876.93 5876.93 5876.93 5876.93	574955 574956 574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.103617 0.103617 0.103617 0.1035275 0.1035833 0.105738 0.1056834 0.1056328 0.1056328 0.105429 0.105429 0.105429 0.105429 0.105429 0.1054269 0.1054269 0.1054269 0.105479 0.105479	5/7/19.2:22 5/7/19.2:27 5/7/19.2:37 5/7/19.2:37 5/7/19.2:42 5/7/19.2:42 5/7/19.2:57 5/7/19.3:02 5/7/19.3:12 5/7/19.3:12 5/7/19.3:27 5/7/19.3:37 5/7/19.3:37 5/7/19.3:37	0.011378	0.3407332	4.64017E+13	3.0734352	6.70217E+12			3.0734352
8871.01 1859.85 1865.94 1865.94 1865.01 1887.18 1880.11 1887.67 1887.74 1887.76 188	574956 574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.103617 0.1034201 0.1035833 0.1035833 0.105738 0.1056834 0.1056328 0.1055726 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799	5/7/19.2:27 5/7/19.2:37 5/7/19.2:37 5/7/19.2:47 5/7/19.2:57 5/7/19.3:02 5/7/19.3:02 5/7/19.3:12 5/7/19.3:12 5/7/19.3:27 5/7/19.3:32 5/7/19.3:32	0.011378	0.3407332	4.62656E+13	3.0815582	6.70217E+12			3.0815582
8859.85 8865.94 5865.11 8877.18 8882.03 8882.03 8882.03 8882.04 8888.65 5871.6 5871.6 5871.6 5871.6 5871.6 5876.48 8868.98	574956 574956 574956 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1034201 0.1035275 0.1035833 0.1057538 0.1057538 0.1056834 0.1056834 0.1055726 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799	5/7/19.2:32 5/7/19.2:37 5/7/19.2:47 5/7/19.2:47 5/7/19.2:57 5/7/19.3:02 5/7/19.3:07 5/7/19.3:17 5/7/19.3:17 5/7/19.3:33 5/7/19.3:33 5/7/19.3:33	0.011279	0.3407332	4.66391E+13	3.0564397	6.70217E+12			3.0564397
865.94 5869.1 5877.6 8877.18 8885.01 8882.01 8882.01 8867.57 5871.6 5871	574956 574956 574957 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1035275 0.1035833 0.1037333 0.1057538 0.1056324 0.1056328 0.1056328 0.1054269 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1055676 0.1055676	5/7/19.237 5/7/19.242 5/7/19.242 5/7/19.257 5/7/19.350 5/7/19.312 5/7/19.312 5/7/19.312 5/7/19.312 5/7/19.312 5/7/19.312	0.0110.0	0.3407332	4.66391E+13	3.0506298	6.70217E+12			3.0506298
5869.1 5877.6 8877.18 8885.01 8882.93 8882.93 880.11 8875.44 8877.57 5871.6 5877.6 5876.8 886.98 886.98	574956 574956 574958 574959 574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1035833 0.1037333 0.1057538 0.1056834 0.1056328 0.1055726 0.1055726 0.1054799 0.1054799 0.1054799 0.1055676 0.1055871 0.109055	5/7/19 2:42 5/7/19 2:47 5/7/19 2:57 5/7/19 2:57 5/7/19 3:02 5/7/19 3:02 5/7/19 3:12 5/7/19 3:27 5/7/19 3:32 5/7/19 3:32 5/7/19 3:32	0.011378	0.3407332	4.66391E+13	3.0538003	6.70217E+12			3.0538003
887.18 885.01 888.29 888.29 888.11 880.11 876.76 886.65 887.57 886.89 886.98 886.98	574956 574957 574958 574959 574959 574959 574959 574959 574950 574950 574950 574950 574950 574950 574950 574950 574950	0.103733 0.1057538 0.1054291 0.1056834 0.1056838 0.1055726 0.105489 0.105489 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1054799 0.1055676 0.1055676	5/7/19 2:47 5/7/19 2:52 5/7/19 2:57 5/7/19 3:02 5/7/19 3:02 5/7/19 3:12 5/7/19 3:27 5/7/19 3:32 5/7/19 3:32 5/7/19 3:32	0.011378	0.3407332	4.66391E+13	3.0554454	6.70217E+12	0.0141064	0.4224397	3.0554454
885.01 888.01 888.01 888.01 880.01 887.64 887.64 887.65 887.57 886.89 886.98 886.98	574957 574958 574959 574959 574959 574959 574959 574959 574960 574960 574960 574960	0.1057538 0.1054291 0.1056834 0.1056834 0.1056328 0.105489 0.1054269 0.1054799 0.1054799 0.1054799 0.1054799 0.1055676 0.1055676 0.109055	5/7/19 2:52 5/7/19 2:57 5/7/19 3:02 5/7/19 3:02 5/7/19 3:07 5/7/19 3:12 5/7/19 3:22 5/7/19 3:32 5/7/19 3:32 5/7/19 3:32	0.011378	0.3407332	4.66391E+13	3.0598705	6.70217E+12	0.0141304	0.4231584	3.0598705
882.93 882.93 880.11 876.76 876.74 876.86 877.57 8876.48 887.57 8868.98 8868.98 8868.98	574958 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1054291 0.1056834 0.1056328 0.1055726 0.1055489 0.1054269 0.1054799 0.1054799 0.105676 0.105676 0.109055	5/7/19 2:57 5/7/19 3:02 5/7/19 3:07 5/7/19 3:12 5/7/19 3:12 5/7/19 3:22 5/7/19 3:27 5/7/19 3:32 5/7/19 3:32	0.011378	0.3407332	4.57448E+13	3.1194692	6.70217E+12	0.0141067	0.4224486	3.1194692
882.93 880.11 8876.76 8875.44 8875.44 5871.6 5871.6 887.75 8868.98 8868.98 8868.98 8868.98	574959 574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1056834 0.1056328 0.1055726 0.1055489 0.1054789 0.1054799 0.1054799 0.105676 0.105676 0.109055	5/7/19 3:02 5/7/19 3:07 5/7/19 3:12 5/7/19 3:12 5/7/19 3:22 5/7/19 3:32 5/7/19 3:37 5/7/19 3:37	0.011378	0.3407332	4.59468E+13	3.1098919	6.70217E+12	0.0188926	0.5657704	3.1098919
880.11 876.76 875.44 888.65 5871.6 5871.57 8876.48 8869.34 8869.34	574959 574959 574959 574959 574959 574959 574960 574960 574960	0.1056328 0.1055726 0.1055489 0.1054789 0.1054799 0.1054799 0.1055871 0.1080874 0.109055	5/7/19 3:07 5/7/19 3:12 5/7/19 3:17 5/7/19 3:22 5/7/19 3:32 5/7/19 3:32 5/7/19 3:32	0.0110606	0.3312281	4.582E+13	3.1173937	6.70217E+12	0.0159616	0.4779967	3.1173937
876.76 875.44 868.65 5871.6 5871.6 877.57 886.98 886.98 8869.73 8869.73	574959 574959 574959 574959 574959 574960 574960 574960 574960	0.1055726 0.1055489 0.1054789 0.1054799 0.105871 0.105676 0.1080874 0.109055	5/7/19 3:12 5/7/19 3:17 5/7/19 3:22 5/7/19 3:27 5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1158994	6.70217E+12	0.0162983	0.4880798	3.1158994
875.44 368.65 5871.6 5871.6 587.57 5876.48 586.98 586.34 5869.73	574959 574959 574959 574959 574959 574960 574960 574960	0.1055489 0.1054269 0.1054799 0.1054799 0.1055871 0.109055 0.109055	5/7/19 3:17 5/7/19 3:22 5/7/19 3:27 5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1141242	6.70217E+12	0.0123771	0.3706529	3.1141242
3868.65 5871.6 5877.57 3876.48 5868.98 5865.34 5869.73	574959 574959 574959 574960 574960 574960 574960	0.1054269 0.1054799 0.1054799 0.1055871 0.109055 0.1080874	5/7/19 3:22 5/7/19 3:27 5/7/19 3:32 5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1134247	6.70217E+12	0.0104838	0.3139549	3.1134247
5871.6 5871.6 5877.57 5876.48 5868.98 5865.34 5865.34	574959 574959 574959 574960 574960 574961 574961	0.1054799 0.1054799 0.1055871 0.109055 0.109055 0.1090753	5/7/19 3:27 5/7/19 3:32 5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1098266	6.70217E+12	0.0135372	0.405394	3.1098266
5871.6 1877.57 1876.48 1868.98 1868.34 1869.73	574959 574959 574960 574960 574961 574961	0.1054799 0.1055871 0.1055676 0.109055 0.1089874	5/7/19 3:32 5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0142273	0.4260602	3.1113899
3877.57 3876.48 3868.98 5865.34 5869.73	574959 574960 574960 574961 574961	0.1055871 0.1055676 0.109055 0.1089874 0.1089874	5/7/19 3:37 5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1113899	6.70217E+12	0.0143862	0.4308187	3.1113899
;876.48 ;868.98 ;865.34 5869.73	574959 574960 574961 574962	0.1055676 0.109055 0.1089874 0.1087753	5/7/193:42	0.0110606	0.3312281	4.582E+13	3.1145534	6.70217E+12	0.0142716	0.4273868	3.1145534
3868.98 3865.34 5869.73 5876.57	574960 574960 574961 574962	0.109055 0.1089874 0.1097753	71/10 3.17	0.0110606	0.3312281	4.582E+13	3.1139758	6.70217E+12		0.425644	3.1139758
3865.34 3869.73 5876.57	574960 574961 574962	0.1089874	7/1/19 5.4/	0.0110606	0.3312281	4.42981E+13	3.2168461	6.70217E+12	0.0124885	0.3739889	3.2168461
5869.73	574961	0.1097753	5/7/19 3:52	0.0110606	0.3312281	4.42981E+13	3.2148509	6.70217E+12	0.0128153	0.3837755	3.2148509
5876.57	574962	0,1700,0	5/7/193:57	0.0110606	0.3312281	4.40131E+13	3.2380924	6.70217E+12	0.0125425	0.3756061	3.2380924
	1	0.1082/18	5/7/19 4:02	0.0132424	0.3965657	4.46763E+13	3.1937442	6.70217E+12	0.012019	0.359929	3.1937442
5864.77	574962	0.1080544	5/7/19 4:07	0.0132424	0.3965657	4.46763E+13	3.1873313	6.70217E+12	0.0116681	0.3494207	3.1873313
5870.49	574963	0.1086102	5/7/19 4:12	0.0132424	0.3965657	4.4491E+13	3.2037267	6.70217E+12	0.012883	0.3858029	3.2037267
5892.85	574964	0.1086378	5/7/19 4:17	0.0132424	0.3965657	4.46491E+13	3.2045387	6.70217E+12	0.0113387	0.3395563	3.2045387
5893.36	574964	0.1086472	5/7/19 4:22	0.0132424	2595968:0	4.46491E+13	3.204816	6.70217E+12		0.3465398	3.204816
5890.81	574964	0.1086002	5/7/19 4:27	0.0132424	2595968:0	4.46491E+13	3.2034293	6.70217E+12	0.0118547	0.3550087	3.2034293
5894.23	574965	0.1080396	5/7/19 4:32	0.0132424	2595968:0	4.49069E+13	3.1868941	6.70217E+12		0.3663795	3.1868941
5898.56	574965	0.108119	5/7/19 4:37	0.0132424	0.3965657	4.49069E+13	3.1892353	6.70217E+12		0.4154741	3.1892353
5908.64	574965	0.1083037	5/7/19 4:42	0.0132424	2595968:0	4.49069E+13	3.1946853	6.70217E+12		0.4308726	3.1946853
5915.11	574965	0.1084223	5/7/19 4:47	0.0132424	2595968'0	4.49069E+13	3.1981835	6.70217E+12			3.1981835
5909.7	574965	0.1083231	5/7/19 4:52	0.0132424	2595968:0	4.49069E+13	3.1952584	6.70217E+12		0.4331156	3.1952584
5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242	6.70217E+12		0.4403358	3.2021242
5914.74	574966	0.1087016	5/7/19 5:02	0.0163996	0.4911134	4.47887E+13	3.2064231	6.70217E+12		0.245961	3.2064231
5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129	6.70217E+12		0.4126531	3.2294129
5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423	6.70217E+12	0.0156701	0.4692673	3.2268423
5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315	6.70217E+12		0.4386827	3.2284315
5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223	6.70217E+12		0.4369458	3.2306223
5902.16	574969	0.1079698	5/7/19 5:27	0.0163996	0.4911134	4.49963E+13	3.1848344	6.70217E+12			3.1848344
5900.85	574969	0.1079458	5/7/19 5:32	0.0163996	0.4911134	4.49963E+13	3.1841275	6.70217E+12			3.1841275
5900.34	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523	6.70217E+12		0.3917144	3.1838523
5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623	6.70217E+12		0.4553361	3.1827623
5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712	6.70217E+12		0.4603941	3.2231712
5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311	6.70217E+12			3.1570311
5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021	6.70217E+12			3.1507021
5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774	6.70217E+12			3.1504774
5888.88	574971	0.1068063	5/7/19 6:07	0.0219988	0.6587907	4.53842E+13	3.1505149	6.70217E+12			3.1505149
	589.049 5892.85 5893.36 5894.23 5894.23 5894.23 5908.64 5908.64 5915.11 5909.7 5908.81 5914.74 5894.35 5903.44 5898.32 5900.34 5898.32 5900.06		574963 574964 574964 574965 574965 574965 574965 574966 574966 574967 574967 574969 574969 574969 574969 574969 574969 574969 574970 574970 574971	574963 0.1086102 574964 0.1086378 574964 0.1086472 574965 0.1080396 574965 0.1081303 574965 0.108303 574965 0.108303 574965 0.108303 574966 0.108331 574967 0.108331 574967 0.109481 574967 0.109481 574967 0.109481 574968 0.1094478 574969 0.1079458 574969 0.1079458 574969 0.1079458 574969 0.1079458 574969 0.1079458 574969 0.1079458 574970 0.1078955 574971 0.106805 574971 0.1068063 574971 0.1068063	574963 0.1086102 57/194:12 574964 0.1086378 57/194:17 574964 0.1086378 57/194:17 574964 0.1086002 5/7/194:27 574965 0.108109 5/7/194:37 574965 0.108109 5/7/194:37 574965 0.108303 5/7/194:37 574965 0.108333 5/7/194:37 574965 0.108333 5/7/194:37 574966 0.108333 5/7/194:27 574967 0.108481 5/7/194:57 574968 0.109481 5/7/195:02 574969 0.109481 5/7/195:02 574969 0.109481 5/7/195:02 574969 0.109481 5/7/195:02 574969 0.109481 5/7/195:02 574969 0.107486 5/7/195:07 574969 0.1079488 5/7/195:07 574969 0.1079488 5/7/195:07 574969 0.1079488 5/7/195:07 574970 0.10020698 5/7/195:07	574963 0.1086102 5/7/194:12 0.0132424 574964 0.1086478 5/7/194:17 0.0132424 574964 0.1086402 5/7/194:17 0.0132424 574964 0.108602 5/7/194:27 0.0132424 574965 0.108109 5/7/194:37 0.0132424 574965 0.108303 5/7/194:37 0.0132424 574965 0.1084223 5/7/194:47 0.0132424 574965 0.1084233 5/7/194:47 0.0132424 574966 0.1083231 5/7/194:47 0.0132424 574966 0.1087016 5/7/194:27 0.0132424 574966 0.1087016 5/7/194:57 0.0163996 574967 0.109448 5/7/195:07 0.0163996 574968 0.109428 5/7/195:07 0.0163996 574969 0.1079468 5/7/195:07 0.0163996 574969 0.107968 5/7/195:07 0.0163996 574969 0.107968 5/7/195:07 0.0163996 574969 0.1079	574963 0.1086102 5/7/19 4:12 0.0132424 0.3965657 574964 0.1086378 5/7/19 4:17 0.0132424 0.3965657 574964 0.1086472 5/7/19 4:27 0.0132424 0.3965657 574965 0.1080002 5/7/19 4:32 0.0132424 0.3965657 574965 0.1083037 5/7/19 4:32 0.0132424 0.3965657 574965 0.1083037 5/7/19 4:32 0.0132424 0.3965657 574965 0.1083037 5/7/19 4:32 0.0132424 0.3965657 574965 0.1083231 5/7/19 4:47 0.0132424 0.3965657 574965 0.1083231 5/7/19 4:47 0.0132424 0.3965657 574966 0.1087016 5/7/19 5:02 0.0132424 0.3965657 574966 0.1087016 5/7/19 5:07 0.0163996 0.4911134 574968 0.109381 5/7/19 5:17 0.0163996 0.4911134 574968 0.1079368 5/7/19 5:37 0.0163996 0.4911134 574969 0.1079368 </td <td>574963 0.1086102 5/7/194:12 0.0132424 0.3965657 4.4491E+13 3 574964 0.1088012 5/7/194:17 0.0132424 0.3965657 4.46491E+13 3 574964 0.1088002 5/7/194:27 0.0132424 0.3965657 4.46491E+13 3 574965 0.1088002 5/7/194:27 0.0132424 0.3965657 4.49069E+13 3 574965 0.108119 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574965 0.1083231 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574966 0.1083231 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574966 0.1083231 5/7/194:37 0.0133424 0.3965657 4.49069E+13 3 574966 0.1087016 5/7/195:02 0.0163996 0.4911134 4.44875E+13 3 574967 0.109481 5/7/195:02 0.0163996 0.4911134 4.44875E+13 3 574969 0.</td> <td>574963 0.01865102 5/7/194.12 0.0132424 0.03965657 4.4491E+13 3.2034387 574964 0.1086472 5/7/194.17 0.0132424 0.3965657 4.46491E+13 3.204318 574964 0.1086472 5/7/194.12 0.0132424 0.3965657 4.46491E+13 3.204316 574964 0.1086002 5/7/194.32 0.0132424 0.3965657 4.46491E+13 3.204316 574965 0.1080303 5/7/194.32 0.0132424 0.3965657 4.49069E+13 3.1868941 574965 0.1083033 5/7/194.42 0.0136567 4.49069E+13 3.1868941 574965 0.1083233 5/7/194.42 0.0136567 4.49069E+13 3.1981835 574966 0.1083231 5/7/194.57 0.0132424 0.3965657 4.49069E+13 3.195284 574966 0.1084233 5/7/194.57 0.0133424 0.3965657 4.49069E+13 3.195284 574966 0.1094334 5/7/195.02 0.013444 4.44875E+13 3.294183 574967 0.1093</td> <td>574964 0.1086102 5/7/19 4;12 0.0132424 0.3965657 4,4491E+13 3.203756 6.70217E+12 574964 0.1086302 5/7/19 4;12 0.0132424 0.3965657 4,4491E+13 3.2034587 6.70217E+12 574964 0.1086378 5/7/19 4;12 0.0132424 0.3965657 4,46491E+13 3.2034586 6.70217E+12 574965 0.108810 5/7/19 4;27 0.0132424 0.3965657 4,46491E+13 3.203459 6.70217E+12 574965 0.10810 5/7/19 4;37 0.0132424 0.3965657 4,46491E+13 3.204816 6.70217E+12 574965 0.10810 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.186834 6.70217E+12 574965 0.1082423 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.186834 6.70217E+12 574966 0.1082423 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.1981835 6.70217E+12 574966 0.1084081 5/7/19 4;57 0.0132424 0.3965657 <</td> <td>574964 0.1086310 5//19 412 0.0122424 0.3955657 4.44916+13 3.20376-15 0.0012833 574964 0.01086370 5//19 412 0.0132424 0.3955657 4.44916+13 3.203776+12 0.0113847 574964 0.01086472 5//19 412 0.0132424 0.3965657 4.4490691+31 3.203776+12 0.0113847 574965 0.108610 5//19 427 0.0132424 0.3965657 4.4490691+31 3.203716+12 0.011874 574965 0.10810 5//19 427 0.0132424 0.3965657 4.490696+13 3.2037364 0.0138738 574965 0.10810 5//19 442 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.013878 574965 0.10810 5//19 442 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.014388 574966 0.10810 5//19 445 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.014388 574966 0.109481 5//19 457</td>	574963 0.1086102 5/7/194:12 0.0132424 0.3965657 4.4491E+13 3 574964 0.1088012 5/7/194:17 0.0132424 0.3965657 4.46491E+13 3 574964 0.1088002 5/7/194:27 0.0132424 0.3965657 4.46491E+13 3 574965 0.1088002 5/7/194:27 0.0132424 0.3965657 4.49069E+13 3 574965 0.108119 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574965 0.1083231 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574966 0.1083231 5/7/194:37 0.0132424 0.3965657 4.49069E+13 3 574966 0.1083231 5/7/194:37 0.0133424 0.3965657 4.49069E+13 3 574966 0.1087016 5/7/195:02 0.0163996 0.4911134 4.44875E+13 3 574967 0.109481 5/7/195:02 0.0163996 0.4911134 4.44875E+13 3 574969 0.	574963 0.01865102 5/7/194.12 0.0132424 0.03965657 4.4491E+13 3.2034387 574964 0.1086472 5/7/194.17 0.0132424 0.3965657 4.46491E+13 3.204318 574964 0.1086472 5/7/194.12 0.0132424 0.3965657 4.46491E+13 3.204316 574964 0.1086002 5/7/194.32 0.0132424 0.3965657 4.46491E+13 3.204316 574965 0.1080303 5/7/194.32 0.0132424 0.3965657 4.49069E+13 3.1868941 574965 0.1083033 5/7/194.42 0.0136567 4.49069E+13 3.1868941 574965 0.1083233 5/7/194.42 0.0136567 4.49069E+13 3.1981835 574966 0.1083231 5/7/194.57 0.0132424 0.3965657 4.49069E+13 3.195284 574966 0.1084233 5/7/194.57 0.0133424 0.3965657 4.49069E+13 3.195284 574966 0.1094334 5/7/195.02 0.013444 4.44875E+13 3.294183 574967 0.1093	574964 0.1086102 5/7/19 4;12 0.0132424 0.3965657 4,4491E+13 3.203756 6.70217E+12 574964 0.1086302 5/7/19 4;12 0.0132424 0.3965657 4,4491E+13 3.2034587 6.70217E+12 574964 0.1086378 5/7/19 4;12 0.0132424 0.3965657 4,46491E+13 3.2034586 6.70217E+12 574965 0.108810 5/7/19 4;27 0.0132424 0.3965657 4,46491E+13 3.203459 6.70217E+12 574965 0.10810 5/7/19 4;37 0.0132424 0.3965657 4,46491E+13 3.204816 6.70217E+12 574965 0.10810 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.186834 6.70217E+12 574965 0.1082423 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.186834 6.70217E+12 574966 0.1082423 5/7/19 4;47 0.0132424 0.3965657 4,49069E+13 3.1981835 6.70217E+12 574966 0.1084081 5/7/19 4;57 0.0132424 0.3965657 <	574964 0.1086310 5//19 412 0.0122424 0.3955657 4.44916+13 3.20376-15 0.0012833 574964 0.01086370 5//19 412 0.0132424 0.3955657 4.44916+13 3.203776+12 0.0113847 574964 0.01086472 5//19 412 0.0132424 0.3965657 4.4490691+31 3.203776+12 0.0113847 574965 0.108610 5//19 427 0.0132424 0.3965657 4.4490691+31 3.203716+12 0.011874 574965 0.10810 5//19 427 0.0132424 0.3965657 4.490696+13 3.2037364 0.0138738 574965 0.10810 5//19 442 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.013878 574965 0.10810 5//19 442 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.014388 574966 0.10810 5//19 445 0.0132424 0.3965657 4.490696+13 3.194858 0.702176+12 0.014388 574966 0.109481 5//19 457

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1	rice	block_height breake	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff rea	real_time_LMP rea	real_time_LMP_rev	realized_rev
206	5894.99	574971	0.1069171	5/7/19 6:12	0.0219988	0.6587907	4.53842E+13	3.1537837	6.70217E+12	0.0139901	0.4189569	3.1537837
207	5888.93	574973	0.1083283	5/7/19 6:17	0.0219988	0.6587907	4.47469E+13	3.1954116	6.70217E+12	0.0169327	0.5070779	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1923187	6.70217E+12	0.0161834	0.4846389	3.1923187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483	6.70217E+12	0.0160255	0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959	6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13	3.1009613	6.70217E+12	0.0160886	0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746	6.70217E+12	0.01829	0.5477245	3.1041746
213	5883.91	574979	0.1039877	5/7/19 6:47	0.0219988	0.6587907	4.6575E+13	3.0673739	6.70217E+12	0.0197193	0.5905273	3.0673739
214	5887.01	574980	0.1024096	5/7/19 6:52	0.0219988	0.6587907	4.73176E+13	3.0208243	6.70217E+12	0.0172624	0.5169513	3.0208243
215	5890.93	574981	0.1023627	5/7/19 6:57	0.0219988	0.6587907	4.73708E+13	3.0194404	6.70217E+12	0.0219934	0.658629	3.0194404
216	5891.99	574981	0.1023811	5/7/19 7:02	0.0252156	0.7551232	4.73708E+13	3.0199837	6.70217E+12	0.0190854	0.5715441	3.0199837
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094	6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/197:12	0.0252156	0.7551232	4.72845E+13	3.0296666	6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/197:17	0.0252156	0.7551232	4.75501E+13	3.0140942	6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881	6.70217E+12	0.0333844	0.9997515	3.0240881
221	5902.21	574986	0.1024856	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13	3.0230648	6.70217E+12	0.0226755	0.6790556	3.0230648
222	5897.09	574987	0.1012514	5/7/19 7:32	0.0252156	0.7551232	4.79408E+13	2.9866604	6.70217E+12	0.0258656	0.7745885	2.9866604
223	5891.39	574988	0.1001624	5/7/19 7:37	0.0252156	0.7551232	4.84152E+13	2.9545379	6.70217E+12	0.0217027	0.6499235	2.9545379
224	5896.98	574988	0.1002575	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413	6.70217E+12	0.0181457	0.5434032	2.9573413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	2.9279253	6.70217E+12	0.0175618	0.5259174	2.9279253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9253909	6.70217E+12	0.0176235	0.5277651	2.9253909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486	6.70217E+12	0.2076065	6.2171227	6.2171227
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289	6.70217E+12	0.3509108	10.5086088	10.5086088
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	2.9529431	6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01	574991	0.1002463	5/7/19 8:12	0.0276548	0.8281691	4.83962E+13	2.9570118	6.70217E+12	0.3477068	10.4126596	10.4126596
231	5901.61	574991	0.1003756	5/7/19 8:17	0.0276548	0.8281691	4.83962E+13	2.9608247	6.70217E+12	0.2233212	6.6877255	6.6877255
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	2.9211197	6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/198:27	0.0276548	0.8281691	4.9049E+13	2.9191298	6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343	6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/198:37	0.0276548	0.8281691	4.92975E+13	2.9083554	6.70217E+12	0.0229099	0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982	6.70217E+12	0.023268	0.696799	2.9196982
237	5918.93	574994	0.0988295	5/7/198:47	0.0276548	0.8281691	4.92975E+13	2.9152212	6.70217E+12	0.0200853	0.6014878	2.9152212
238	5920.48	574994	0.0988554	5/7/19 8:52	0.0276548	0.8281691	4.92975E+13	2.9159846	6.70217E+12	0.02447	0.7327949	2.9159846
239	5927.27	574996	0.1000578	5/7/19 8:57	0.0276548	0.8281691	4.8761E+13	2.9514506	6.70217E+12	0.0185494	0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404	6.70217E+12	0.0182697	0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824	6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015		7	6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	2.758369	6.70217E+12	0.0194987	0.5839211	2.758369
244	5836.61	574999	0.0937986	5/7/19 9:22	0.0268411	0.8038015		2.7668213	6.70217E+12	0.0190273	0.5698042	2.7668213
245	5852.94	574999	0.094061		0.0268411	0.8038015			6.70217E+12	0.0201623	0.6037937	2.7745624
246	5843.39	575000	0.0949282		0.0268411	0.8038015			6.70217E+12	0.0195915	0.5867001	2.8001417
247	5840.9	575000	0.0948878	5/7/199:37	0.0268411	0.8038015	5.06685E+13	2.7989485	6.70217E+12	0.0208798	0.6252804	2.7989485
248	5844.44	575000	0.0949453		0.0268411	0.8038015	5.06685E+13		6.70217E+12	0.0199536	0.5975438	2.8006448
249	5831.94	575001	0.0948603		0.0268411	0.8038015			6.70217E+12	0.0196606	0.5887694	2.7981392
250	5840.78	575003	0.0941941		0.0268411	0.8038015			6.70217E+12	0.0187964	0.5628895	2.7784869
251	5839.47	575003	0.094173	5/7/199:57	0.0268411	0.8038015	5.10406E+13	2.7778637	6.70217E+12	0.0188057	0.563168	2.7778637
252	5836.55	575003	0.0941259		0.0268411	0.8038015			6.70217E+12	0.0188057	0.563168	2.7764747
253	5843.59	575003	0.0942394		0.0287164	0.8599605		7	6.70217E+12	0.0202762	0.6072046	2.7798236
254	5851.93	575003	0.0943739		0.0287164	0.8599605			6.70217E+12	0.0195808	0.5863797	2.783791
255	5840.6	575003	0.0941912		0.0287164	0.8599605			6.70217E+12	0.0202654	0.6068812	2.7784013
256	5841.73	575003	0.0942094	5/7/19 10:18	0.0287164	0.8599605	5.10406E+13	2.7789388	6.70217E+12	0.020167	0.6039344	2.7789388

Case: 23-1922	Document: 39-7	Page: 240	Filed: 01/02/2024
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1	BTC_price b	block_height bre	breakeven_mining_cost da	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
257	5837.26	575004		5/7/19 10:23	0.0287164	0.8599605	4.97383E+13	2.8495172	6.70217E+12	0.0196567		2.8495172
258	5843.1	575004	0.0966987	5/7/19 10:28	0.0287164	0.8599605	4.97383E+13	2.852368	6.70217E+12	0.0207215	0.6205399	2.852368
259	5843.45	575005	0.0974035	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.8731576	6.70217E+12	0.0201838	0.6044375	2.8731576
260	5841.01	575005	0.0973629 5	5/7/19 10:35	0.0287164	0.8599605	4.93814E+13	2.8719579	6.70217E+12	0.0198071	0.5931566	2.8719579
261	5844.02	575005	0.097413 5	5/7/19 10:42	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159		2.8734379
262	5844.02	575005	0.097413	5/7/19 10:43	0.0287164	0.8599605	4.93814E+13	2.8734379	6.70217E+12	0.0200159	0.5994095	2.8734379
263	5843.32	575005	0.0974014 5	5/7/19 10:43	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
264	5843.32	575005	0.0974014	5/7/19 10:44	0.0287164	0.8599605	4.93814E+13	2.8730937	6.70217E+12	0.0200159	0.5994095	2.8730937
265	5843.18	575005	0.097399	5/7/19 10:45	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
266	5843.18	575005		5/7/19 10:46	0.0287164	0.8599605	4.93814E+13	2.8730249	6.70217E+12	0.0201643	0.6038536	2.8730249
267	5843.81	575005	0.0974095	5/7/19 10:48	0.0287164	0.8599605	4.93814E+13	2.8733347	6.70217E+12	0.0201643	0.6038536	2.8733347
268	5855.01	575005	0.0975962	5/7/19 10:51	0.0287164	2096658'0	4.93814E+13	2.8788416	6.70217E+12	0.0202597	0.6067105	2.8788416
269	5853.18	575005	0.0975657	5/7/19 10:52	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
270	5853.18	575005	0.0975657	5/7/19 10:53	0.0287164	0.8599605	4.93814E+13	2.8779418	6.70217E+12	0.0202597	0.6067105	2.8779418
271	5854.99	575005	0.0975959	5/7/19 10:58	0.0287164	0.8599605	4.93814E+13	2.8788317	6.70217E+12	0.0204901	0.6136102	2.8788317
272	5855.01	575005	0.0975962	5/7/19 11:03	0.0273473	0.8189605	4.93814E+13	2.8788416	6.70217E+12	0.019272	0.5771322	2.8788416
273	5862.23	575005	0.0977166	5/7/19 11:08	0.0273473	0.8189605	4.93814E+13	2.8823916	6.70217E+12	0.0185107	0.5543338	2.8823916
274	5868.68	575005	0.0978241 5	5/7/19 11:13	0.0273473	0.8189605	4.93814E+13	2.885563	6.70217E+12	0.0182389	0.5461943	2.885563
275	5877.1	575005	0.0979644	5/7/19 11:18	0.0273473	0.8189605	4.93814E+13	2.889703	6.70217E+12	0.0175485	0.5255191	2.889703
276	5880.82	575006	0.1020763 5	5/7/19 11:23	0.0273473	0.8189605	4.74222E+13	3.0109929	6.70217E+12	0.0171425	0.5133607	3.0109929
277	5885.64	575007	0.1017322	5/7/19 11:28	0.0273473	0.8189605	4.76216E+13	3.000843	6.70217E+12	0.0161012	0.4821773	3.000843
278	5888.81	575007	0.101787 5	5/7/19 11:33	0.0273473	0.8189605	4.76216E+13	3.0024592	6.70217E+12	0.0167836	0.5026129	3.0024592
279	5887.01	575007	0.1017559 5	5/7/19 11:38	0.0273473	0.8189605	4.76216E+13	3.0015415	6.70217E+12	0.017405	0.5212217	3.0015415
280	5885.87	575009	0.1022383 5	5/7/19 11:43	0.0273473	0.8189605	4.73877E+13	3.0157712	6.70217E+12	0.0181379	0.5431696	3.0157712
281	5882.45	575010	0.1025602 5	5/7/19 11:48	0.0273473	0.8189605	4.72115E+13	3.0252654	6.70217E+12	0.0188967	0.5658932	3.0252654
282	5889.31	575010	0.1026798 5	5/7/19 11:53	0.0273473	0.8189605	4.72115E+13	3.0287934	6.70217E+12	0.0191234	0.5726821	3.0287934
283	5888.74	575011		5/7/19 11:58	0.0273473		4.69478E+13	3.0455122	6.70217E+12	0.0189953	0.5688459	3.0455122
284	5894.74	575011		5/7/19 12:03	0.0270574		4.69478E+13	3.0486153	6.70217E+12	0.0201972	0.6048388	3.0486153
285	5895.72	575011		5/7/19 12:08	0.0270574		4.69478E+13	3.0491221	6.70217E+12	0.0246114	0.7370294	3.0491221
286	5907.12	575011		5/7/19 12:13	0.0270574		4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013		5/7/19 12:18	0.0270574			3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288	5895.99	575013		5/7/19 12:23	0.0270574			3.0614459	6.70217E+12	0.0163821	0.4905893	3.0614459
289	5898.02	575014	0.1043706 5	5/7/19 12:27	0.0270574	0.8102789	4.65154E+13	3.0786681	6.70217E+12	0.0162962	0.4880169	3.0786681
290	5895.6	575014	0.1043278 5	5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016		5/7/19 12:37	0.0270574			3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016		5/7/19 12:42	0.0270574			3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293	5893.65	575016		5/7/19 12:47	0.0270574		4.65141E+13	3.0764699	6.70217E+12	0.020945	0.6272329	3.0764699
294	5893.83	575018		5/7/19 12:52	0.0270574		4.69465E+13	3.0482275	6.70217E+12	0.0215906		3.0482275
295	5890.09	575018		5/7/19 12:57	0.0270574	0.8102789		3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339 5	5/7/19 13:02	0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514 5	5/7/19 13:07	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298	5880.76	575018	0.1031095	5/7/19 13:12	0.0260477	0.7800418	4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
299	5885.01	575018		5/7/19 13:17	0.0260477	0.7800418		3.0436659	6.70217E+12	0.0156969		3.0436659
300	5886.65	575019		5/7/19 13:22	0.0260477	0.7800418		3.10269	6.70217E+12	0.0194576		3.10269
301	5886.81	575019		5/7/19 13:27	0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737 5	5/7/19 13:32	0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019		5/7/19 13:37	0.0260477			3.0985841	6.70217E+12	0.4823059		14.443454
304	5879.94	575019		5/7/19 13:42	0.0260477			3.0991534	6.70217E+12	0.1343145		4.0222716
305	5872.78	575020		5/7/19 13:47	0.0260477	0.7800418		3.1142442	6.70217E+12	0.0287544		3.1142442
306	5868.57	575020		5/7/19 13:52	0.0260477	0.7800418		3.1120117	6.70217E+12	0.0442637		3.1120117
30/	58//9	2/2020	0.1056633	5//19 13:5/	0.0260477	0.7800418	4.5/8/2E+13	3.1168002	6./U21/E+12	0.0156508	0.4686893	3.1168002

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1	Г			ON POOR	102	the state of the state of			0	100	Local Localitation
	_				day_anead_LINIP_rev es	est_network_nashrate			real_time_tiviP_real_	ume_LIVIP_rev	realized_rev
5880.3	5/5021	0.10/0192	5///19 14:02	0.025584	0.7661555	4.522/9E+13	3.156/95	6.7021/E+12	0.0212368	0.0359/14	3.156/95
5856.76		0.1065908	5/7/19 14:07	0.025384	0.7661555	4.32279E+13	3.1441577	6.70217E+12	0.0153226	0.4825756	3.1441577
5835.32		0.1062006	5/7/19 14:17	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12	0.021294	0.6376843	3.1326478
5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
5823.9	575021	0.1059927	5/7/19 14:27	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
5844.51	575021	0.1063678	5/7/19 14:32	0.025584	0.7661555	4.52279E+13	3.1375814	6.70217E+12	0.0221179	0.6623574	3.1375814
5852.73	575022	0.1090264	5/7/19 14:37	0.025584	0.7661555	4.41871E+13	3.2160024	6.70217E+12	0.0160534	0.4807458	3.2160024
5842.59	575022	0.1088375	5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2104306	6.70217E+12	0.0139152	0.4167139	3.2104306
5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
5842.77	575023	0.1093128	5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
5843.27	575023	0.1093222	5/7/19 14:57	0.025584	0.7661555	4.39963E+13	3.2247277	6.70217E+12	0.0080116	0.2399207	3.2247277
5849.85	575023	0.1094453	5/7/19 15:02	0.0200751	0.6011823	4.39963E+13	3.228359	6.70217E+12	0.004172	0.1249375	3.228359
5844.11	575023	0.1093379	5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
5843.57	575023	0.1093278	5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
5844.59	575023	0.1093469	5/7/19 15:22	0.0200751	0.6011823	4.39963E+13	3.2254562	6.70217E+12	0.0173942	0.5208983	3.2254562
5849.99	575023	0.1094479	5/7/19 15:27	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0160868	0.481746	3.2284363
5849.99	575023	0.1094479	5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
5861.7	575023	0.109667	5/7/19 15:42	0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
5871.48	575024	0.1144475	5/7/19 15:47	0.0200751	0.6011823	4.22289E+13	3.3759101	6.70217E+12	0.0172669	0.5170861	3.3759101
5859.1	575024	0.1142061	5/7/19 15:52	0.0200751	0.6011823	4.22289E+13	3.368792	6.70217E+12	0.0085437	0.2558553	3.368792
5854.1	575025	0.1144044	5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
5843.22	575026	0.1144995		0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
5853.43	575026	0.1146996	5/7/19 16:07	0.0216225	0.6475218	4.20066E+13	3.3833471	6.70217E+12	0.0156725	0.4693391	3.3833471
5856.16	575026	0.1147531	5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.384925	6.70217E+12	0.0214597	0.6426465	3.384925
5854.02	575026	0.1147111	5/7/19 16:17	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12	0.0239835	0.7182259	3.3836881
5850.81	575026	0.1146482	5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
5854.62		0.1163454	5/7/19 16:27	0.0216225	0.6475218	4.14207E+13	3.4318944	6.70217E+12	0.0156102	0.4674735	3.4318944
5855.8		0.1157465	5/7/19 16:32	0.0216225	0.6475218	4.16435E+13	3.4142287	6.70217E+12	0.0163249	0.4888763	3.4142287
5856.74	5/5029	0.1142802	5/7/19 16:37	0.0216225	0.6475218	4.21846E+13	3.3709755	6.7021/E+12	0.01/5314	0.525007	3.3709755
5868.02	575029	0.1145003	5/7/19 16:42	0.0216225	0.6475218	4.21846E+13	3.3774679	6.70217E+12	0.0151098	0.4524881	3.3774679
5872.51	575029	0.1145879	5/7/19 16:47	0.0216225	0.6475218	4.21846E+13	3.3800522	6.70217E+12	0.0146534	0.4388205	3.3800522
5871.99	575029	0.1145777	5/7/19 16:52	0.0216225	0.6475218	4.21846E+13	3.3797529	6.70217E+12	0.0175759	0.5263396	3.3797529
5880.77	575029	0.1147491	5/7/19 16:57	0.0216225	0.6475218	4.21846E+13	3.3848064	6.70217E+12	0.0063504	0.1901733	3.3848064
5886.53	575029	0.1148614	5/7/19 17:02	0.0204922	0.6136731	4.21846E+13	3.3881217	6.70217E+12	0.0061338	0.1836869	3.3881217
5889.98		0.1149288	5///19 1/:0/	0.0204922	0.6136/31	4.21846E+13	3.3901075	6.7021/E+12	0.0028472	0.0852641	3.3901075
0.0000	5/5031	0.114/43/	5//19 1/:12	0.0204922	0.6136/31	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
5071 00	575032	0.1144304	5/7/19 17:77	0.0204922	0.0136731	4.23146E+13	3.3/01/44	6 702175+12	0.0197231	0.3300411	2 264471
5872.05	575033	0.114078		0.0204922	0.6136731	4.23698F+13	3.3650113	6.70217E+12	0.0099314	0.2974123	3.3650113
5878.77	575034	0.1147072	5/7/19 17:32	0.0204922	0.6136731	4.21856E+13	3.3835727	6.70217E+12	0.0135307	0.4051994	3.3835727
5877.4	575034	0.1146805	5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
5880.39	575034	0.1147388	5/7/19 17:42	0.0204922	0.6136731	4.21856E+13	3.3845051	6.70217E+12	0.0171643	0.5140136	3.3845051
5871.98	575034	0.1145747	5/7/19 17:47	0.0204922	0.6136731	4.21856E+13	3.3796646	6.70217E+12	0.0179472	0.5374588	3.3796646
5878.4	575035	0.1155377	5/7/19 17:52	0.0204922	0.6136731	4.18797E+13	3.4080684	6.70217E+12	0.0182428	0.5463111	3.4080684
5886.62	575035	0.1156992	5/7/19 17:57	0.0204922	0.6136731	4.18797E+13	3.4128341	6.70217E+12	0.0280718	0.8406568	3.4128341
5896.23	575036	0.1119906	5/7/19 18:02	0.0194272	0.5817799	4.33372E+13	3.3034392	6.70217E+12	0.4423178	13.2459437	13.2459437
5898.4		0.1120318	5/7/19 18:08	0.0194272	0.5817799	4.33372E+13		6.70217E+12	0.19554	5.8557712	5.8557712
00000	77777	0.000.40	C1/10 10:13	0.00							

	4	В	C	D	Е	L.	9	I	_	ſ	¥	٦
1	BTC_price blo	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
359	5899.98	575037	0.1118805	0.1118805 5/7/1918:18	0.0194272	0.5817799	4.34075E+13	3.3001905	6.70217E+12	0.0124839	0.3738512	3.3001905
360	5901.99	575039		5/7/19 18:23					6.70217E+12		0.1898738	3.2090942
361	5898.01	575040		5/7/19 18:28	J			3.1930006	6.70217E+12		0.208884	3.1930006
362	5899.19	575041							6.70217E+12		0.3529724	3.1553672
363	5858.01	575041	0.1062241						6.70217E+12	0	0.0246012	3.1333408
364	5832.84	575041	0.1057677	5/7/19 18:43	0.0194272	0.5817799	4.53937E+13	3.1198778	6.70217E+12	0.007936	0.2376567	3.1198778
200	2020.37	373042							6 702175+12		0.39267	3.1326167
200	5750.23	575042						ກ	6./021/E+12	٥	0.4409168	n
36/	5/65.61	575042	5						6.70217E+12		0.4/46846	
368	5698.35	575042		_			4.51499E+13		6.70217E+12		0.4310793	3.0644036
369	5728.93	575043			_		4.50844E+13		6.70217E+12		0.2559033	3.0853184
370	5726.34	575044	0.1042417	5/7/19 19:13	_	0.6239777	4.52172E+13	m	6.70217E+12		0.392499	3.0748672
371	5721.68	575044			J		4.52172E+13		6.70217E+12		0.2230518	3.072365
372	5740.89	575044	0.1045066	5/7/19 19:23	0.0208363	0.6239777	4.52172E+13	3.0826801	6.70217E+12	0.0220669	0.6608301	3.0826801
373	5739.97	575047	0.1037772	5/7/19 19:28	0.0208363	0.6239777	4.55277E+13	3.0611659	6.70217E+12	0.0206216	0.6175482	3.0611659
374	5762.15	575047	0.1041783	5/7/19 19:33	0.0208363	0.6239777	4.55277E+13	3.0729946	6.70217E+12	0.0227412	0.6810231	3.0729946
375	5772.32	575048	0.1046881	5/7/19 19:38	0.0208363	0.6239777	4.5386E+13	3.0880343	6.70217E+12	0.0213669	0.6398674	3.0880343
376	5757.52	575048	0.1044197	5/7/19 19:43	0.0208363	0.6239777	4.5386E+13	3.0801167	6.70217E+12	0.0192512	0.5765093	3.0801167
377	5780.76	575048	0.1048412	5/7/19 19:48	0.0208363	0.6239777	4.5386E+13	3.0925494	6.70217E+12	0.0184615	0.5528604	3.0925494
378	5772.27	575049	0.1062044	5/7/19 19:53	0.0208363	0.6239777	4.47376E+13	3.1327595	6.70217E+12	0.0170593	0.5108692	3.1327595
379	5763.53	575049	0.1060435	5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
380	5774.99	575049	0.1062544	5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382	5794.65	575051	0.1065264	5/7/19 20:13	0.0214057	0.6410294	4.47753E+13	3.1422582	6.70217E+12	0.0189119	0.5663484	3.1422582
383	5794.99	575052			0.0214057	0.6410294			6.70217E+12		0.5054668	3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13	3.1534189	6.70217E+12	0.0168679	0.5051374	3.1534189
387	5792.26	575054	0.1071284	5/7/19 20:38	0.0214057	0.6410294	4.45053E+13		6.70217E+12	0.0100913	0.3022008	3.1600161
388	5794.99	575055	0.1078127	5/7/19 20:43	0.0214057	0.6410294	4.42437E+13	3.1802017	6.70217E+12	0.0159387	0.4773109	3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319	5/7/19 20:53	0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056		5/7/19 20:58			4		6.70217E+12		0.3625104	
392	5783.99	575057	0.1071229	5/7/19 21:03	0.0187353	0.5610598	4.444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393	5798.01	575060	0.1064196	5/7/19 21:08	0.0187353	0.5610598	4.48462E+13	3.1391083	6.70217E+12	0.0101617	0.304309	3.1391083
394	5804.99	575060							6.70217E+12		0.4412911	3.1428873
395	5804.47	575060							6.70217E+12		0.4834141	3.1426058
396	5797.19	575061							6.70217E+12		0.4993517	3.1774565
397	5796.01	575062							6.70217E+12		0.4868609	3.1656063
398	5/96.91	2/2067							6./021/E+12		0.4640895	3.1660978
399	5804.49	575063							6.70217E+12		0.4198373	3.1928815
400	5807.51	575063	0						6.70217E+12		0.4135185	
401	5806.56	575064	0.107581	5/7/19 21:48			4.44275E+13		6.70217E+12		0.3702786	3.1733683
402	5797.78	575064		5/7/19 21:53				3.1685699	6.70217E+12		0.4052533	3.1685699
403	5793.65	575064							6.70217E+12		0.4303845	3.1663128
404	5778.02	575065		5/7/19 22:03	0.0092857	0.2780758	4.44269E+13	3.1578114	6.70217E+12	0.0159167	0.4766521	3.1578114
405	5773.43	575066							6.70217E+12		0.4589417	3.1034402
406	5779.39	575067	0						6.70217E+12		0.4175733	3.1109906
407	5791.59	575067							6.70217E+12		0.3925888	3.1175577
408	5790.02	575067	0.1056603						6.70217E+12		0.3670653	3.1167126
409	5782.94	575067	0.1055311	5/7/19 22:28	0.0092857	0.2780758	4.51062E+13	3.1129015	6.70217E+12	0.0136306	0.408191	3.1129015

	А	В	ر	D	Е	F	G	Н	_	ſ	¥	L
_	BTC_price	block_height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
410			0.105394		0	0.2780758	4					3.1088589
411					0	0.2780758				0.0130395	0.3904896	3.1496656
412	2					0.2780758				0.0132167	0.3957961	3.1526954
413			0.1064823		0					0.0151927	0	3.1409571
414										0.0127496		3.1439203
415	58/788	5/50/0	0.1065129	9 5///19 22:58 4 5/8/19 0:03	0.0092857	0.2780/58	4.46566E+13 4.52714E+13	3.1418596	6.70217E+12 6.70217E+12	0.01094	0.3276165	3.1418596
417										0.0120928	0.350135	3.1163417
418										0.0121536		3 1213604
419										0.0121338		3 1162113
420										0.0132227		3.1182774
421										0.0133711	0.4004199	3.1426942
422			0.102499							0.0173409	0.5193022	3.0234621
423	5804.41	575082	0.1023697	7 5/8/19 0:38		0.321747	4.66719E+13	3.0196463	6.70217E+12	0.0172819	0.5175353	3.0196463
424	5804.82	575084	0.1015622	2 5/8/19 0:43	0.010744	0.321747	4.70463E+13	2.9958274	6.70217E+12	0.0175389	0.5252316	2.9958274
425	5802.49	575086	0.0989662	2 5/8/19 0:48	0.010744	0.321747	4.82609E+13	2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426	5795.31	575086	0.0988438	8 5/8/19 0:53	0.010744	0.321747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427	5799.55	575087	0.0990391	1 5/8/19 0:58	0.010744	0.321747	4.8201E+13	2.9214025	6.70217E+12	0.0135535	0.4058821	2.9214025
428	5810.52	575087	0.0992264	4 5/8/19 1:03	0.0116366	0.3484774	4.8201E+13	2.9269284	6.70217E+12	0.0126685	0.3793793	2.9269284
429	5818.01	575087	0.0993543	3 5/8/191:08	3 0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	2 5/8/191:13	3 0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431					0						0.3781605	2.8713676
432	5820.91	575090	0.0974051	1 5/8/191:23	0.0116366	0.3484774	4.91901E+13				0.374546	2.8732038
433	5831.99	575090	0.0975905	5 5/8/19 1:28	0.0116366	0.3484774	4.91901E+13		6.70217E+12	0.0125147	0.3747735	2.8786729
434								7				2.8815012
435	ш,		0.0974831		0					0.0007008		2.875504
436	5834.9	575090	0.0976392	2 5/8/191:43	0.0116366	0.3484774	4.91901E+13	2.8801093		0.002842	0.0851084	2.8801093
437	5839.94	575090	0.0977235	5 5/8/191:49	0.0116366	0.3484774	4.91901E+13	2.882597	6.70217E+12	0.0029206	0.0874622	2.882597
438	5834.68	575090	0.0976355	5 5/8/19 1:54	0.0116366	0.3484774		2.8800007	6.70217E+12		0.1116202	2.8800007
439			0.0975181		0				6.70217E+12	0	0.1354637	2.8765356
440	5833.57	575090	0.097617	7 5/8/19 2:04	0.0119665	0.3583568		2.8794528	6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02	575090	0.0976747	7 5/8/19 2:09	0.0119665	0.3583568	4.91901E+13	2.8811557	6.70217E+12	0.0120927	0.3621361	2.8811557
442	5834.82	575091	0.1021121	1 5/8/19 2:14	0.0119665	0.3583568	4.70347E+13	3.0120484	6.70217E+12	0.0138694	0.4153423	3.0120484
443		575091	0.1020629		0		4.70347E+13		6.70217E+12	0.0243003	0.727713	3.0105978
444	ш,		0.1019802		0					0		3.0081561
445			0.101753									3.0014556
446			0.1015212								0	2.9946169
447		575092	0.1016193	3 5/8/192:39	0		4.72051E+13		6.70217E+12	0.0134243	0.402013	2.9975127
448					0						0.5192632	2.9835236
449					0							2.9835236
450	5827.65	575094	0.1011909	9 5/8/192:54	0.0119665		4.74046E+13	2.9848758	6.70217E+12	0.0135423	0.4055467	2.9848758
451		575094	0.101214		0	0.3583568			6.70217E+12	0.0119787	0.3587221	2.985557
452	5816.75	575095	0.1023933	3 5/8/19 3:04	0.0120924	0.3621271	4.67603E+13	3.020342	6.70217E+12	0.007941	0.2378065	3.020342
453	5816.32	575095	0.1023857	7 5/8/19 3:09	0.0120924	0.3621271	4.67603E+13	3.0201187	6.70217E+12	0.011828	0.3542092	3.0201187
454	5822.73	575095	0.1024985	5 5/8/19 3:14	0.0120924	0.3621271	4.67603E+13	3.0234471	6.70217E+12	0.0145702	0.4363289	3.0234471
455	5828.4	575095	0.1025983	3 5/8/193:19	9 0.0120924	0.3621271	4.67603E+13	3.0263913	6.70217E+12	0.0152655	0.4571508	3.0263913
456			0.1038705		0						0.5065808	3.0639178
457			0.1040273		0						0	3.0685432
458												
459												
460	5822.59	575099	0.1046272	2 5/8/193:44	0.0120924	0.3621271	4.58079E+13	3.0862378	6.70217E+12	0.0168116	0.5034514	3.0862378

		3.099478 3.099478 3.099478 3.1014952 3.0937385 3.0855325 3.0855325 3.1084182 3.118911 3.117124 3.118731 3.118732	4.55049E+13 3.0984912 4.55049E+13 3.099478 4.5642E+13 3.099478 4.5647E+13 3.09972 4.5647E+13 3.09972 4.55484E+13 3.09972 4.55484E+13 3.09972 4.53734E+13 3.1053836 4.53734E+13 3.118911 4.53734E+13 3.118911 4.5374E+13 3.118911 4.5374E+13 3.118531 4.53187E+13 3.118531 4.53187E+13 3.125197 4.50092E+13 3.125074 4.50092E+13 3.125074 4.53187E+13 3.125074 4.53187E+13 3.123607 4.53341E+13 3.123607 4.53341E+13 3.123637 4.53341E+13 3.127726 4.53341E+13 3.1101208 4.53341E+13 3.1101208 4.54893E+13 3.1103869 4.56173E+13 3.1103869	4.55049E+13 3.099478 4.55049E+13 3.099478 4.55049E+13 3.099478 4.55049E+13 3.0997385 4.55044E+13 3.0937385 4.5584E+13 3.0937385 4.53734E+13 3.1053836 4.53734E+13 3.118911 4.53734E+13 3.118911 4.53734E+13 3.118911 4.5374E+13 3.1187124 4.5374E+13 3.118732 4.5378E+13 3.118732 4.5378E+13 3.118732 4.53187E+13 3.118732 4.53187E+13 3.118732 4.53187E+13 3.11373674 4.5372E+13 3.11373674 4.5372E+13 3.11373674 4.5372E+13 3.11373674 4.53734E+13 3.11033637 4.53341E+13 3.1101208 4.53734E+13 3.1101208 4.53745E+13 3.1101208 4.55157E+13 3.1103869 4.56173E+13 3.110009 4.56173E+13 3.110009	9/8/19 5:34 0.0120224 0.5621271 4.53077E+13 3.007420 9/8/19 5:34 0.0120224 0.5621271 4.55049E+13 3.0084912 5/8/19 4:09 0.0137229 0.4109551 4.55049E+13 3.0084912 5/8/19 4:09 0.0137229 0.4109551 4.55049E+13 3.00872 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 3.09378 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 3.09972 5/8/19 4:29 0.0137229 0.4109551 4.55734E+13 3.09972 5/8/19 4:39 0.0137229 0.4109551 4.53734E+13 3.1084182 5/8/19 4:39 0.0137229 0.4109551 4.53734E+13 3.118711 5/8/19 4:39 0.0137229 0.4109551 4.5374E+13 3.118712 5/8/19 4:39 0.0137229 0.4109551 4.5374E+13 3.11871 5/8/19 5:04 0.0137229 0.4109551 4.5374E+13 3.11870 5/8/19 5:04 0.0137229 0.4109551 4.5374E+13 3.11870	5/8/19 5:34 0.0120924 0.052012/1 4.55049E+13 3.0249412 5/8/19 3:59 0.0120924 0.04109551 4.55049E+13 3.093438 5/8/19 4:09 0.0137229 0.4109551 4.55049E+13 3.093438 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 3.093738 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 3.093738 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 3.093738 5/8/19 4:29 0.0137229 0.4109551 4.57078E+13 3.093738 5/8/19 4:39 0.0137229 0.4109551 4.53734E+13 3.10516 5/8/19 4:39 0.0137229 0.4109551 4.53734E+13 3.113714 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 3.113701 5/8/19 5:04 0.0137229 0.4109551 4.5324E+13 3.113701 5/8/19 5:04 0.0137229 0.4109551 4.5324E+13 3.113701 5/8/19 5:04 0.0172785 0.5174335 4.5318F+13 3.113701 <	5/8/19 5:34 0.0120224 0.03612171 4.55049E+13 3.0240407 5/8/19 3:59 0.0120224 0.03612171 4.55049E+13 3.0984912 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 3.098378 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 3.093738 5/8/19 4:05 0.0137229 0.4109551 4.5642E+13 3.09378 5/8/19 4:05 0.0137229 0.4109551 4.5642E+13 3.09378 5/8/19 4:05 0.0137229 0.4109551 4.57078E+13 3.09378 5/8/19 4:39 0.0137229 0.4109551 4.5374E+13 3.10516 5/8/19 4:39 0.0137229 0.4109551 4.5374E+13 3.117514 5/8/19 4:39 0.0137229 0.4109551 4.5374E+13 3.117514 5/8/19 5:09 0.0137229 0.4109551 4.5374E+13 3.117514 5/8/19 5:09 0.0172785 0.5174335 4.5324E+13 3.117504 5/8/19 5:09 0.0172785 0.5174335 4.5372E+13 3.117704
			4.55049E+13 4.55040E+13 4.5642E+13 4.57078E+13 4.57078E+13 4.53734E+13 4.53734E+13 4.5324E+13 4.5324E+13 4.5324E+13 4.5324E+13 4.5324E+13 4.5324E+13 4.5322E+13 4.53187E+13 4.53187E+13 4.5334E+13 4.5332E+13 4.53334E+13 4.53334E+13 4.53334E+13 4.53334E+13 4.53334E+13 4.53341E+13 4.53341E+13 4.533341E+13 4.53341E+13 4.53341E+13 4.53341E+13 4.53341E+13 4.53341E+13 4.53341E+13 4.5489E+13 4.5489E+13 4.55475E+13 4.55475E+13 4.55475E+13 4.56173E+13	0.4109551 4.55049E+13 0.4109551 4.55049E+13 0.4109551 4.5642E+13 0.4109551 4.57078E+13 0.4109551 4.57078E+13 0.4109551 4.5374E+13 0.4109551 4.5374E+13 0.4109551 4.5374E+13 0.4109551 4.5374E+13 0.5174335 4.53187E+13 0.6345669 4.54893E+13 0.6345669 4.56173E+13 0.634569 4.56173E+13	5/8/19 4;04 0.0137229 0.4109551 4.55049E+13 5/8/19 4;04 0.0137229 0.4109551 4.55049E+13 5/8/19 4;19 0.0137229 0.4109551 4.55049E+13 5/8/19 4;19 0.0137229 0.4109551 4.57078E+13 5/8/19 4;24 0.0137229 0.4109551 4.57078E+13 5/8/19 4;29 0.0137229 0.4109551 4.5374E+13 5/8/19 4;39 0.0137229 0.4109551 4.5374E+13 5/8/19 4;49 0.0137229 0.4109551 4.5374E+13 5/8/19 4;54 0.0137229 0.4109551 4.5374E+13 5/8/19 5;04 0.0172785 0.5174335 4.5318F+13 5/8/19 5;04 0.0172785 0.5174335 4.5372E+13 5/8/19 5;34 0.0172785 0.5174335 4.5372E+13 5/8/19 5;39 0.0172785 0.5174335 <td>5/8/19 4.04 0.0137229 0.4109551 4.55049E+13 5/8/19 4.09 0.0137229 0.4109551 4.55049E+13 5/8/19 4.14 0.0137229 0.4109551 4.55049E+13 5/8/19 4.19 0.0137229 0.4109551 4.57078E+13 5/8/19 4.24 0.0137229 0.4109551 4.57078E+13 5/8/19 4.24 0.0137229 0.4109551 4.53734E+13 5/8/19 4.39 0.0137229 0.4109551 4.53734E+13 5/8/19 4.50 0.0137229 0.4109551 4.53734E+13 5/8/19 4.54 0.0172785 0.5174335 4.5302E+13 5/8/19 5.04 0.0172785 0.5174335 4.5372E+13 5/8/19 5.24 0.0172785 0.5174335 4.5372E+13 5/8/19 5.34 0.0172785 0.5174335 4.5372E+13 5/8/19 5.34 0.0172785 0.5174</td> <td>0.105092 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 0.1051445 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 0.1046815 5/8/19 4:14 0.0137229 0.4109551 4.55049E+13 0.1046033 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 0.1057083 5/8/19 4:24 0.0137229 0.4109551 4.5544E+13 0.1054095 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.1054095 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.1055078 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.105508 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 5:04 0.0137229 0.4109551 4.5334E+13 <</td>	5/8/19 4.04 0.0137229 0.4109551 4.55049E+13 5/8/19 4.09 0.0137229 0.4109551 4.55049E+13 5/8/19 4.14 0.0137229 0.4109551 4.55049E+13 5/8/19 4.19 0.0137229 0.4109551 4.57078E+13 5/8/19 4.24 0.0137229 0.4109551 4.57078E+13 5/8/19 4.24 0.0137229 0.4109551 4.53734E+13 5/8/19 4.39 0.0137229 0.4109551 4.53734E+13 5/8/19 4.50 0.0137229 0.4109551 4.53734E+13 5/8/19 4.54 0.0172785 0.5174335 4.5302E+13 5/8/19 5.04 0.0172785 0.5174335 4.5372E+13 5/8/19 5.24 0.0172785 0.5174335 4.5372E+13 5/8/19 5.34 0.0172785 0.5174335 4.5372E+13 5/8/19 5.34 0.0172785 0.5174	0.105092 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 0.1051445 5/8/19 4:04 0.0137229 0.4109551 4.55049E+13 0.1046815 5/8/19 4:14 0.0137229 0.4109551 4.55049E+13 0.1046033 5/8/19 4:19 0.0137229 0.4109551 4.55049E+13 0.1057083 5/8/19 4:24 0.0137229 0.4109551 4.5544E+13 0.1054095 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.1054095 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.1055078 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.105508 5/8/19 4:34 0.0137229 0.4109551 4.5374E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 4:34 0.0137229 0.4109551 4.5334E+13 0.105608 5/8/19 5:04 0.0137229 0.4109551 4.5334E+13 <
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	6.7	3.1145494 3.1103869 3.110009 3.1097323 3.1139353	4.55157E+13 3.1145494 4.56173E+13 3.1103869 4.56173E+13 3.110009	0.6345669 4.55157F+13 3.1145494 0.6345669 4.56173E+13 3.1103869 0.6345669 4.56173E+13 3.110009 0.6345669 4.56173E+13 3.1097323	5/8/19 6:14 0.0211899 0.6345669 4.55157E+13 3.1145494 5/8/19 6:19 0.0211899 0.6345669 4.56173E+13 3.1103869 5/8/19 6:24 0.0211899 0.6345669 4.56173E+13 3.110009 5/8/19 6:29 0.0211899 0.6345669 4.56173E+13 3.1097323	5/8/19 6:14 0.0211899 0.6345669 4.55157E+13 3.1145494 5/8/19 6:19 0.0211899 0.6345669 4.56173E+13 3.1103869	0.105587 5/8/19 6:14 0.0211899 0.6345669 4.55157E+13 3.1145494 0.1054459 5/8/19 6:14 0.0211899 0.6345669 4.56173E+13 3.110009 0.1054331 5/8/19 6:24 0.0211899 0.6345669 4.56173E+13 3.110009 0.1054331 5/8/10 6:24 0.0211890 0.6345669 4.56173E+13 3.110009
	9 9 9 9 9 9	3.1103869 3.110009 3.1097323 3.1139353	4.56173E+13 3.1103869 4.56173E+13 3.110009	0.6345669 4.56173E+13 3.1103869 0.6345669 4.56173E+13 3.110009 0.6345669 4.56173E+13 3.1097323	5/8/19 6:19 0.0211899 0.6345669 4.56173E+13 3.1103869 5/8/19 6:24 0.0211899 0.6345669 4.56173E+13 3.110009 5/8/19 6:29 0.0211899 0.6345669 4.56173E+13 3.10003	5/8/19 6:19 0.0211899 0.6345669 4.56173E+13 3.1103869	0.1054459 5/8/19 6:24 0.0211899 0.6345669 4.56173E+13 3.1103869 0.1054331 5/8/19 6:24 0.0211899 0.6345669 4.56173E+13 3.110009 0.1054331 5/8/19 6:29 0.0211899 0.6345669 4.56173E+13 3.110009
	6.7	3.1139353	4.501/3E+13 3.110009	0.6345669 4.56173E+13 3.1097323	3/8/19 6:29 0.0211899 0.6345669 4.56173E+13 3.10907323	70/10/2/10 C1-10/10/10/10/10/10/10/10/10/10/10/10/10/1	0.1034321 6/81/10.524 0.0211829 0.0346260 4.3011.52413 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.034126213 3.101009 0.0341263 0.0
	0 0 0 0	3.1139353	4.56173F+13 3.1097323		010 10 110 110 110 110 110 110 110 110	5/8/19 6:24 U.UZ11899 U.B345669 4.5b1/3E+13 3.1LUUU9 4.5/19 U.D211899 U.B345669 4.561/3E+13 3.1LUUU9	8/3/5/ 5/4/5/ 6/4/5/10 6/4/
	9 9 9 9		4.56903E+13 3.1139353	4.56903E+13 3.1139353	5/8/19 6:34 0.0211899 0.6345669 4.56903E+13 3.1139353	5/8/19 6:34 0.0211899 0.6345669 4.56903F+13 3.1139353	0.1055667 5/8/19 6:34 0.0211899 0.6345669 4.56903F+13 3.1139353
	6 6 6	3.1082971	4.56903E+13 3.1082971	0.6345669 4.56903E+13 3.1082971	5/8/19 6:39 0.0211899 0.6345669 4.56903E+13 3.1082971	5/8/19 6:39 0.0211899 0.6345669 4.56903E+13 3.1082971	0.1053751 5/8/19 6:39 0.0211899 0.6345669 4.56903E+13 3.1082971
		3.1140097	4.56903E+13 3.1140097	0.6345669 4.56903E+13 3.1140097	5/8/19 6:44 0.0211899 0.6345669 4.56903E+13 3.1140097	5/8/19 6:44 0.0211899 0.6345669 4.56903E+13 3.1140097	0.1055687 5/8/19 6:44 0.0211899 0.6345669 4.56903E+13 3.1140097
,		4.56903E+13 3.1219968 (3.1219968	0.6345669 4.56903E+13 3.1219968	5/8/19 6:49 0.0211899 0.6345669 4.56903E+13 3.1219968	0.0211899 0.6345669 4.56903E+13 3.1219968	5/8/19 6:49 0.0211899 0.6345669 4.56903E+13 3.1219968
				0.6345669 4.55007E+13	5/8/19 6:54 0.0211899 0.6345669 4.55007E+13	5/8/19 6:54 0.0211899 0.6345669 4.55007E+13	5/8/19 6:54 0.0211899 0.6345669 4.55007E+13
		3.1262913	4.54146E+13 3.1262913	0.6345669 4.54146E+13 3.1262913	5/8/19 6:59 0.0211899 0.6345669 4.54146E+13 3.1262913	5/8/19 6:59 0.0211899 0.6345669 4.54146E+13 3.1262913	0.1059851 5/8/19 6:59 0.0211899 0.6345669 4.54146E+13 3.1262913
	9	3.1322899	4.54146E+13 3.1322899	0.7365952 4.54146E+13 3.1322899	5/8/19 7:04 0.0245969 0.7365952 4.54146E+13 3.1322899	5/8/19 7:04 0.0245969 0.7365952 4.54146E+13 3.1322899	0.1061884 5/8/19 7:04 0.0245969 0.7365952 4.54146E+13 3.1322899
	6.7	3.0864695	4.61635E+13 3.0864695	0.7365952 4.61635E+13 3.0864695	5/8/19 7:09 0.0245969 0.7365952 4.61635E+13 3.0864695	5/8/19 7:09 0.0245969 0.7365952 4.61635E+13 3.0864695	0.1046351 5/8/19 7:09 0.0245969 0.7365952 4.61635E+13 3.0864695
	6.7	3.0822829	4.61635E+13 3.0822829	0.7365952 4.61635E+13 3.0822829	5/8/19 7:14 0.0245969 0.7365952 4.61635E+13 3.0822829	5/8/19 7:14 0.0245969 0.7365952 4.61635E+13 3.0822829	0.1044931 5/8/197:14 0.0245969 0.7365952 4.61635E+13 3.0822829
	6.70	3.0842552	4.61635E+13 3.0842552	0.7365952 4.61635E+13 3.0842552	5/8/19 7:19 0.0245969 0.7365952 4.61635E+13 3.0842552	5/8/19 7:19 0.0245969 0.7365952 4.61635E+13 3.0842552	0.10456 5/8/197:19 0.0245969 0.7365952 4.61635E+13 3.0842552
6.70217E+12 0.0230157	6.70	4.59578E+13 3.0960609 6.702	3.0960609	4.59578E+13 3.0960609	5/8/19 7:24 0.0245969 0.7365952 4.59578E+13 3.0960609	5/8/19 7:24 0.0245969 0.7365952 4.59578E+13 3.0960609	5/8/19 7:24 0.0245969 0.7365952 4.59578E+13 3.0960609
	6.7	3.0934774	4.59578E+13 3.0934774	0.7365952 4.59578E+13 3.0934774	5/8/19 7:29 0.0245969 0.7365952 4.59578E+13 3.0934774	5/8/19 7:29 0.0245969 0.7365952 4.59578E+13 3.0934774	0.1048726 5/8/197:29 0.0245969 0.7365952 4.59578E+13 3.0934774
	6.7	3.0965892	4.59578E+13 3.0965892	0.7365952 4.59578E+13 3.0965892	5/8/19 7:34 0.0245969 0.7365952 4.59578E+13 3.0965892	5/8/19 7:34 0.0245969 0.7365952 4.59578E+13 3.0965892	0.1049781 5/8/19 7:34 0.0245969 0.7365952 4.59578E+13 3.0965892
	9	3.0981636	4.59578E+13 3.0981636	0.7365952 4.59578E+13 3.0981636	5/8/197:39 0.0245969 0.7365952 4.59578E+13 3.0981636	5/8/197:39 0.0245969 0.7365952 4.59578E+13 3.0981636	0.1050315 5/8/19 7:39 0.0245969 0.7365952 4.59578E+13 3.0981636
6.70217E+12 0.0198359 6.70217E+12 0.0296779	9	4.595/8E+13 3.0219576 6.	3.0219576	4.595/8E+13 3.0935039 4.69919E+13 3.0219576	5/8/19 /:44 0.0245969 0.7365952 4.595/8E+13 3.0219576 5/8/19 7:49 0.0245969 0.7365952 4.69919E+13 3.0219576	0.0245969 0.7365952 4.69919F+13 3.0219576	5/8/19 /:44 0.0245969 0.7365952 4.595/8E+13 3.0219576 5/8/19 7:49 0.0245969 0.7365952 4.69919E+13 3.0219576
	ی ا	3.0227572	4.69382E+13 3.0227572	0.7365952 4.69382E+13 3.0227572	5/8/19 7:54 0.0245969 0.7365952 4.69382E+13 3.0227572	5/8/19 7:54 0.0245969 0.7365952 4.69382E+13 3.0227572	0.1024751 5/81/97:54 0.0245969 0.7356952 4.69382F413 3.02257572
	2 7	2.0220.6	4.00002E1123 5.0227372	4.033825.12 3.0227372 0.7305057 0.7305057 0.7305057	2/0/12 1.322020 4.03020 4.0302020 4.0302020 4.0302020 4.0302000 4.0302020 4.03020	2/0/12 1.322020 4.03020 4.0302020 4.0302020 4.0302020 4.0302000 4.0302020 4.03020	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

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1	rice	block_height	ning_cost	ь	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513	5849.48	575129	0.1024537	5/8/19 8:09	0.0242095	0.7249938	4.69957E+13		6.70217E+12	0.0199092	0.5962142	3.0221242
514	5848.2	575130	0.1023337	5/8/19 8:14	0.0242095	0.7249938	4.70405E+13	3.0185855	6.70217E+12	0.0193885	0.5806209	3.0185855
515	5833.78	575131			0.0242095	0.7249938				0.0228642	0.6847066	3.0033105
516	5845.68	575131	0.1020236		0.0242095	0.7249938	4.71632E+13		6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133		5/8/19 8:29	0.0242095	0.7249938				0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13		6.70217E+12	0.0253845	0.7601812	2.9834634
519	5844.18	575135	0.1003625	5/8/19 8:39	0.0242095	0.7249938	4.79315E+13	2.9604385	6.70217E+12	0.0187378	0.5611347	2.9604385
520	5844.99	575136	0.1007176	5/8/19 8:45	0.0242095	0.7249938	4.77691E+13	2.9709144	6.70217E+12	0.0201853	0.6044825	2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13	3.9790876	6.70217E+12	0.0203371	0.6090284	2.9790876
523	5859.02	575136	0.1009594	5/8/19 9:00	0.0244939	0.7335107	4.77691E+13	2.9780456	6.70217E+12	0.0193291	0.5788421	2.9780456
524	5865.61	575136	0.1010729	5/8/19 9:05	0.0244939	0.7335107	4.77691E+13	2.9813952	6.70217E+12	0.0272511	0.8160796	2.9813952
525	5854.26	575136	0.1008773	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	3.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101	5/8/19 9:15	0.0244939	0.7335107	4.71458E+13	3.0031404	6.70217E+12	0.2149698	6.4376289	6.4376289
527	5839.16	575137	0.1019473	5/8/19 9:20	0.0244939	0.7335107	4.71458E+13	3.0071883	6.70217E+12	0.2149291	6.4364101	6.4364101
528	5843.2	575137	0.1020179	5/8/19 9:25	0.0244939	0.7335107	4.71458E+13	3.0092689	6.70217E+12	0.0275293	0.8244108	3.0092689
529	5841.15	575137	0.1019821	5/8/19 9:30	0.0244939	0.7335107	4.71458E+13	3.0082132	6.70217E+12	0.0429576	1.2864369	3.0082132
530	5849.05	575139	0.1011946	5/8/19 9:35	0.0244939	0.7335107	4.7577E+13	2.9849829	6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296	5/8/19 9:45	0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533	5864.03	575140			0.0244939					0.0259313	0.776556	2.9507504
534	5868.53	575142	0.0972217	5/8/19 9:55	0.0244939	0.7335107	4.96861E+13	2.8677931	6.70217E+12	0.0202099	0.6052191	2.8677931
535	5857.64	575143	0.0964425	5/8/19 10:00	0.0273545	0.8191761	4.99946E+13	2.8448083	6.70217E+12	0.018816	0.5634765	2.8448083
536	2866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761		2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143			0.0273545					0.0189675	0.5680134	2.8478096
538	5866.01	575143			0.0273545					0.0207265	0.6206896	2.8488732
539	5864.99	575144		_	0.0273545					0.0230154	0.6892345	2.7565705
240	5879.4	575144			0.0273545					0.022665	0.6787412	2.7633433
541	5893.62	575144			0.0273545			2.7		0.026083	0.7810989	2.7700267
542	5896.01	575144			0.0273545					0.0230839	0.6912859	2.77115
543	5888.01	575145			0.0273545					0.0287548	0.8611104	2.790525
244	5881.26	5/5145		5/8/19 10:45	0.02/3545					0.0290496	0.8699387	7.78/326
545	5890.78	575145		_	0.0273545			7		0.031648	0.9477521	2.7918378
546	5902.32	575145		_	0.0273545					0.0386126	1.1563187	2.797307
547	5892.56	575146	0							0.1850845	5.5426638	5.5426638
548	5892.8	575146		_						0.1223436	3.663783	3.663783
549	5886.97	575146	0	_	0.0256602					0.0289788	0.8678185	2.8222665
220	5886.09	575147			0.0256602					0.0293671	0.8794468	2.8027303
551	5892.15	575147								0.0222423	0.6660827	2.8056159
552	5876.44	575148								0.0207227	0.6205758	2.8067268
553	5884.06	575149			0.0256602					0.0191584	0.5737302	2.8177282
554	5888.27	575149	0.0955928	5/8/19 11:36	0.0256602	0.7684375	5.07027E+13	2.8197442	6.70217E+12	0.0213724	0.6400321	2.8197442
555	5886.01	575149			0.0256602					0.0222172	0.6653311	2.818662
256	5884.57	575150			0.0256602					0.0230647	0.6907109	2.7606856
557	5889.82	575150								0.0228225	0.6834578	2.7631486
558	5888.19	575151			0.0256602					0.0233477	0.6991858	2.7884168
559	5872.61	575151			0.026371					0.0224703	0.6729106	2.7810387
560	5867.29	575152		5/8/19 12:06	0.026371					0.0217427	0.6511214	2.7925413
567	5863.69	5/5152		0.0946125 5/8/19 12:11	0.026371	0.7897235	5.10142E+13 5.00608E+13	2.7908278	6.70217E+12	0.0206502	0.6184047	2.7908278
700	DODOOC	CCTC/C		5/8/15 1Z.1U	T / CDZO? / T					U.UZ1103U	כככככם.ט	7.1940505

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		breakeven_mining_cost	datetime	day_ahe	day_ahead_l	est_network	E	network_diff	real_ti	real_time_LMP_rev	realized_rev
- 1	575154	0.0943442						6.70217E+12		0.6806009	2.7829139
- 1	575154	0.0944876						6.70217E+12		0.7864384	2.7871437
- 1	5/5156	0.0934827						6./021/E+12		0.739497	2.7575042
- 1	575156	0.0934308					13 2.7559724	6.70217E+12		0.7171538	2.7559724
	575156	0.0933919						6.70217E+12		0.6448895	2.7548247
	575157	0.0931778						6.70217E+12		0.6443774	2.7485095
	2/213/	0.0931925						6./U21/E+12		0.631/339	2./48943/
	575159	0.0936745			0			6.70217E+12		0.6647202	2.7631598
	575159	0.0935804	5/8/19 13:01	0.0224056	0.670973		13 2.7603855	6.70217E+12	0.0220558	0.6604977	2.7603855
	575159	0.093653						6.70217E+12		0.6962031	2.7625261
	575159	0.0936901	5/8/19 13:11	0.0224056	0.670973	5.17223E+13	13 2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
	575159	0.0936218	5/8/19 13:16	0.0224056	0.670973	5.17223E+13	13 2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
	575160	0.095298	5/8/19 13:21	0.0224056	5 0.670973	5.0849E+13	13 2.8110496	6.70217E+12	0.0210217	8675679'0	2.8110496
	575161	0.0954767	5/8/19 13:26	0.0224056	0.670973	5.07362E+13	13 2.8163217	6.70217E+12	0.0209618	0.627736	2.8163217
	575161	0.0953473	5/8/19 13:31	0.0224056	0.670973	5.07362E+13	13 2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
	575163	0.0928787	5/8/19 13:36	0.0224056	0.670973	5.19737E+13	13 2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
	575163	0.0930984	5/8/19 13:41	0.0224056	0.670973	5.19737E+13	13 2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
	575163	0.0931942	5/8/19 13:46	0.0224056	0.670973	5.19737E+13	13 2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
	575163	0.0931603	5/8/19 13:51	0.0224056	0.670973	5.19737E+13	13 2.747993	6.70217E+12	0.0286405	0.8576875	2.747993
	575163	0.0932007	5/8/19 13:56	0.0224056	5 0.670973	5.19737E+13	13 2.7491843	6.70217E+12	0.0262751	0.7868517	2.7491843
	575164	0.0946934	5/8/19 14:01	0.0200678	0.6009637	5.11517E+13	13 2.793214	6.70217E+12	0.027166	0.8135311	2.793214
	575164	0.0946153	5/8/19 14:06		0.6009637	5.11517E+13	13 2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
	575164	0.0945802	5/8/19 14:11	0.0200678	0.6009637	5.11517E+13	13 2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
	575166	0.0950829	5/8/19 14:16	0.0200678	0.6009637	7 5.0966E+13	13 2.8047039	6.70217E+12	0.0218292	0.6537118	2.8047039
	575166	0.0950307)	0.6009637	5.0966E+13		6.70217E+12		0.6517383	2.8031651
	575166	0.095048	5/8/19 14:26	0.0200678	0.6009637	7 5.0966E+13	13 2.8036749	6.70217E+12	0.0217781	0.6521815	2.8036749
	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	13 2.836049	6.70217E+12	0.021451	0.6423859	2.836049
	575167	0.0961424	5/8/19 14:36	0.0200678	0.6009637	7 5.05365E+13	13 2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
	575167	0.0962058	5/8/19 14:41	0.0200678	0.6009637	5.05365E+13		6.70217E+12	0.0426523	1.2772942	2.8378267
	575167	0.0962981	5/8/19 14:46	0.0200678	0.6009637	5.05365E+13	13 2.8405508	6.70217E+12	0.1999116	989986'5	5.986686
	575170	0.095031	5/8/19 14:51	0.0200678	0.6009637	5.1179E+13	13 2.8031727	6.70217E+12	0.2670565	7.997452	7.997452
	575170	0.0948922	5/8/19 14:56	0.0200678	3 0.6009637	5.1179E+13	13 2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
	575171	0.0950701	5/8/19 15:01	0.0170556	0.5107584	1 5.09465E+13	13 2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
	575171	0.0951636	5/8/19 15:06	0.0170556	0.5107584	1 5.09465E+13		6.70217E+12	0.0254303	0.7615527	2.8070857
	575171	0.0951738	5/8/19 15:11		0.5107584	1 5.09465E+13	13 2.8073859	6.70217E+12	0.0264722	0.7927541	2.8073859
	575171	0.0948133					7	6.70217E+12		0.6974758	2.7967533
	575172	0.0962041	_					6.70217E+12	0	0.6655317	2.837777
	575172	0.0961094						6.70217E+12		0.6437635	2.8349841
	575173	0.0955836						6.70217E+12		0.7004765	2.8194728
	575174	0.0960485						6.70217E+12		0.7791853	2.8331879
	575174	0.0959799		_				6.70217E+12		0.6124333	2.8311646
	575174	0.0960497		0				6.70217E+12		0.6105197	2.8332215
	575174	0.0961049				5.05218E+13	13 2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
	575175	0.0970802						6.70217E+12		0.6264663	2.863621
	575176	0.0971661		_				6.70217E+12		0.6288111	2.8661537
	575176	0.0970207	5/8/19 16:06	0.0174326	0.5220483		13 2.8618643	6.70217E+12	0.0203367	0.6090164	2.8618643
	575176	0.0970592	5/8/19 16:11		0.5220483	4.99823E+13	13 2.863001	6.70217E+12		0.6393793	2.863001
	575177	0.0969298						6.70217E+12		0.7832042	2.8591849
	575177	0.0969567		0.0174326	0.5220483	5.00395E+13	2.		0.0258626	0.7744987	2.8599758
	575178	0.097646	5/8/19 16:26	0.0174326	0.5220483	A 97004F+13	7 88031			C 103373 O	7 00001
			П					0./UZI/E+12	0.0215949	0.0466933	7:0003T

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_ ·	rea	3 2.9020809					2 2.9194522	5 2.9160665	3 2.9147151						2.9659989					4 2.8918748	7 2.8916554	7 2.9074353	.4 2.8761095	7 2.9743362	3 2.973594	14 2.9336031					2.9269103				.7 2.9824418	5 2.9792807	3 2.9798359	1 2.985978	2.9948159	3.019299	3.0984226	3.1266382	3.1060641				3.0454809	3.0449014
	real_time_LMP_rev	0.6202973	0.7627565	0.7510325	0.7369006	0.6779596	0.7685572	1.1507695	1.0914033	0.5719903	0.6893004	0.0907055	1.315584	1.2235699	0.512061	0.3303138	0.556606	0.5193141	0.5626949	0.5410884	0.493557	2336230	0.5034574	0.3662927	0.4860853	0.2720804	0.3657117	0.2749553	0.4120811	0.4573874	0.32/4938	7080770	0.4570191	0.6841645	0.4954017	0.4904485	0.4428273	0.4850731	0.42002	0.4625382	0.4703963	0.6448146	0.5557203	0.4898825	0.5643719	0.4030881	0.4933504	CCC077
	real_time_LMP	0.020/134	0.0223010	0.025079	0.0246071	0.0226389	0.0256642	0.0384273	0.0364449	0.0191003	0.0230176	0.0030289	0.0439309	0.0408583	0.01/0991	0.0163538	0.0185884	0.0173413	0.0187899	0.0180684	0.0164812	0.0180238	0.0168118	0.0122315	0.0162317	0.0090855	0.0122121	0.0091815	0.0137605	0.0152734	0.0109359	0.015/1969	0.0152611	0.0228461	0.0165428	0.0163774	0.0147872	0.0161979	0.0140256	0.0154454	0.0157078	0.0215321	0.018557	0.0163585	0.0188459	0.0134602	0.0164743	
T	network_diff	6./021/E+12 6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12		6.70217E+12	6.70217E+12	6.70217E+12						6.70217E+12					6.70217E+12	6.70217E+12	6.70217E+12		6.70217E+12	6.70217E+12	6.70217E+12					6.70217E+12					6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12				6.70217E+12	1 1 2 0 0 1
Ξ.	mining_rev	2.9020809	2.8774631	2.8762842	2.8756022	2.9177544	2.9194522	2.9160665	2.9147151	2.9403898	2.9410582	2.9519358	2.9556564	2.9600404	2.9659989	2 9759139	2 9097985	2.8912849	2.8899053	2.8918748	2.8916554	2.9074353	2.8761095	2.9743362	2.973594	2.9336031	2.9277617	2.9173636	2.9210566	2.9293068	2.9269103	2 0156778	2 9244451	2.979976	2.9824418	2.9792807	2.9798359	2.985978	2.9948159	3.019299	3.0984226	3.1266382	3.1060641	3.0556586	3.0455058	3.0455341	3.0454809	
	_	4.9380/E+13	4.98424E+13	4.98424E+13	4.98424E+13	4.90525E+13	4.90525E+13	4.90525E+13	4.90525E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86826E+13	4.86669E+13	4.80003E+13	4.03548E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.98071E+13	4.84199E+13	4.84199E+13	4.90239E+13	4.92195E+13	4.94421E+13	4.94421E+13	4.94421E+13	4.94421E+13	A 94421E+13	4.344216.13	4.8544E+13	4.85444E+13	4.85444E+13	4.85444E+13	4.85444E+13	4.85444E+13	4.85444E+13	4.73117E+13	4.73117E+13	4.73117E+13	4.80997E+13	4.8162E+13	4.80789E+13	4.81808E+13	
_ ·	_	0.5220483	0.5220483	0.5220483	0.5220483	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.5211678	0.0212070	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4955425	0.4752656	0.4752656	0.4752656	0.47,32636	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.4752656	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	0.3971227	
T		0.0174326	0.0174326	0.0174326	0.0174326	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0174032	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0165475	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.0158704	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	0.013261	
	datetime	5/8/19 16:36					5/8/19 17:06	5/8/19 17:11	5/8/19 17:16		5/8/19 17:26				5/8/1917:46			_			5/8/19 18:22	5/8/19 18:27	5/8/19 18:32	5/8/19 18:37		5/8/19 18:47					5/8/19 19:12					5/8/19 19:42	5/8/19 19:47	5/8/19 19:52	5/8/19 19:57		5/8/19 20:07	5/8/19 20:12	5/8/19 20:17					- 1- 1- 1-1-
. ال	breakeven_mining_cost	0.0983841	0.0975495	0.0975095	0.0974864	0.0989154	0.098973	0.0988582	0.0988124	0.0996828	0.0997054	0.1000742	0.1002003	0.100349	0.100551	0.1004607	0.1986457	0.0980181	0.0979713	0.0980381	0.0980306	0.0985656	0.0975036	0.1008336	0.1008085	0.0994527	0.0992547	0.0989022	0.0990274	0.0993071	0.0992258	0.0988/130	0.0388433	0.1010248	0.1011084	0.1010012	0.1010201	0.1012283	0.1015279	0.1023579	0.1050403	0.1059968	0.1052994	0.1035905	0.1032464	0.1032473	0.1032455	
		5/5180	575181	575181	575181	575182	575182	575182	575182	575183	575183	575183	575183	575183	5/5185	575186	575188	575189	575189	575189	575189	575189	575189	575190	575190	575191	575192	575194	575194	575194	5/5194	575194	575194	575195	575195	575195	575195	575195	575195	575195	575196	575196	575196	575199	575200	575202	575204	
П	BTC_price	4 5902.19 5 5905.0	L		8 5903.02		0 5898.06	1 5891.22			4 5896.91				5944.99			Ŋ		4 5932.23	5 5931.78	6 5964.15	7 5899.89	8 5931.45	9 5929.97	0 5923.2				S	5 5960.1					1 5956.59	2 5957.7	3 5969.98	4 5987.65		6 6037.49	7 6092.47	8 6052.38					
- [_ [6 4	616	617	618	619	620	621	622	623	624	625	626	627	629	630	631	632	633	634	635	989	637	638	639	640	641	642	643	644	645	647	648	649	650	651	652	653	654	655	959	657	658	629	099	661	662	

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3.0798806 3.1206959 2.9351584

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3.0698443 3.084309 3.0771614 3.0748598

0.3909388 0.3663915 0.3387417 0.1919342 0.1499609

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2.9329578 2.9101535 2.9110025

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-0.858517 -0.0463335

В	С	Q	Е	F	9	Τ	_	ſ	
height	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time
575205		5/8/19 20:52	0.013261	0.3971227	4.7865E+13	3.0698443	6.70217E+12	0.0130545	
575206		5/8/19 20:57	0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	
575206		5/8/19 21:02	0.0057558	0.172367	4.76643E+13	3.0794901		0.0113115	
575207		5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	
575207		5/8/19 21:12	0.0057558	0.172367	4.7682E+13	3.0748598	6.70217E+12	0.0050076	
575207		5/8/19 21:17	0.0057558	0.172367	4.7682E+13	3.0790099	6.70217E+12	-0.0026668	
575207		5/8/19 21:22	0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	
575207		5/8/19 21:27	0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	
575208		5/8/19 21:32	0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	
575210	0.1055202	5/8/19 21:37	0.0057558	0.172367	4.72457E+13	3.1125773	6.70217E+12	-0.0021614	
575212		5/8/19 21:42	0.0057558	0.172367	5.01295E+13	2.9351584	6.70217E+12	-0.0034416	
575213		5/8/19 21:47	0.0057558	0.172367	5.03935E+13	2.9148188	6.70217E+12	-0.0015146	
575214		5/8/19 21:52	0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	
575214			0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	
575214		5/8/19 22:02	-0.0039885	-0.1194423	5.00453E+13	2.9309783	6.70217E+12	0.0028846	
575215		5/8/19 22:07	-0.0039885	-0.1194423	5.0337E+13	2.9101535	6.70217E+12	-0.0021717	
575215		5/8/19 22:12	-0.0039885	-0.1194423	5.0337E+13	2.9110025	6.70217E+12	0.0094236	
575215		5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	
575216		5/8/19 22:22	-0.0039885	-0.1194423	5.05802E+13	2.8962791	6.70217E+12	-0.0071632	
575217		5/8/19 22:27	-0.0039885	-0.1194423	5.03487E+13	2.9069577		-0.0043047	
575217		5/8/19 22:32	-0.0039885	-0.1194423	5.03487E+13	2.906678	6.70217E+12	-0.0026014	
575217		5/8/19 22:37	-0.0039885	-0.1194423	5.03487E+13	2.9078884	6.70217E+12	-0.0017683	
575219			-0.0039885	-0.1194423	5.05528E+13	2.9005763		-0.0018002	
575221			-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	
575221		5/8/19 22:52	-0.0039885	-0.1194423	5.09465E+13	2.876643		-0.0028608	
575222		5/8/19 22:57	-0.0039885	-0.1194423		2.8663937	6.70217E+12	-0.0044334	
575224		5/9/19 0:02	-0.0060127	-0.1800603	4	2.9927906		-0.0145142	
575225			-0.0060127	-0.1800603	4.89531E+13	3.0118316		-0.0130235	
575225			-0.0060127	-0.1800603	4.89531E+13	3.0097038		-0.0286682	
575225		5/9/19 0:17	-0.0060127	-0.1800603	4.89531E+13	3.0136767		-0.0231556	
575225			-0.0060127	-0.1800603	4.89531E+13	3.0141578		-0.0015472	
575225			-0.0060127	-0.1800603	4.89531E+13	3.003995		-0.0012057	
575225			-0.0060127	-0.1800603	4.89531E+13	3.0023979		-0.0181456	
575227			-0.0060127	-0.1800603	4.80475E+13	3.0557938		-0.0191353	
575227	0.1038435		-0.0060127	-0.1800603		3.0631212		-0.0107209	
575229		5/9/19 0:52	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12	0.0010001	
575229		5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0466114	6.70217E+12	-0.0040798	
575229		5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	
575229		5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977		-0.0031204	
575231		5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	
575232		5/9/19 1:17	-0.0084514	-0.2530913	4.82528E+13	3.0406489	6.70217E+12	-0.0005672	
575233		5/9/19 1:22	-0.0084514	-0.2530913	4.82145E+13	3.0486951	6.70217E+12	-0.0121807	
575233		5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	
575233		5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	
575233		5/9/19 1:37	-0.0084514	-0.2530913	4.82145E+13	3.0508202	6.70217E+12	-0.0157309	
575234		5/9/19 1:42	-0.0084514	-0.2530913	4.80461E+13	3.0620845	6.70217E+12	-0.0227758	
575235			-0.0084514	-0.2530913	4.83765E+13	3.0421965		-0.0265233	
575235			-0.0084514	-0.2530913	4.83765E+13	3.0484953		-0.0258125	
575236	0.1036534		-0.0084514	-0.2530913	4.82077E+13	3.0575115		-0.0270166	
575237			-0.009959	-0.2982389				-0.0241909	
575238		5/9/19 2:07	-0.009959	-0.2982389	4.83264E+13	3.0500217	6.70217E+12	-0.0192845	

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7											
BTC_price	block_height bre	breakeven_mining_cost	datetime	day_ahead_LMP	day_ahead_LMP_rev	est_network_hashrate	mining_rev	network_diff	real_time_LMP	real_time_LMP_rev	realized_rev
6066.1	575238	0.1033221	5/9/19 2:12	-0.009959	-0.2982389	4.83264E+13	3.0477407	6.70217E+12	-0.0253576	-0.7593756	3.0477407
6051.34	575238	0.1030707	5/9/19 2:17	-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13	3.0700698	6.70217E+12	-0.0259793	-0.7779934	3.0700698
6063.51	575239	0.1041088	5/9/19 2:27	-0.009959	-0.2982389	4.79408E+13	3.070946	6.70217E+12	-0.0268247	-0.8033103	3.070946
6069.07	575240	0.1042563	5/9/19 2:32	-0.009959	-0.2982389	4.79168E+13	3.0752977	6.70217E+12	-0.0240329	-0.7197052	3.0752977
6065.45	575242	0.1026794	5/9/19 2:37	-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
8029.18	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
6052.82	575243	0.1032503	5/9/19 2:53	-0.009959	-0.2982389	4.82542E+13	3.0456209	6.70217E+12	-0.0280966	-0.8413995	3.0456209
6054.43	575243	0.1032777	5/9/19 2:58	-0.009959	-0.2982389	4.82542E+13	3.046431	6.70217E+12	-0.0255341	-0.7646612	3.046431
6054.32	575244	0.1033884	5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	3.049695	6.70217E+12	-0.0035264	-0.1056039	3.049695
6068.65	575246	0.1006368	5/9/19 3:08	-0.0077595	-0.2323712	4.96368E+13	2.9685297	6.70217E+12	-0.0237767	-0.7120329	2.9685297
6068.33	575249	0.0992317	5/9/19 3:13	-0.0077595	0.2323712	5.0337E+13	2.9270841	6.70217E+12	-0.0227655	-0.6817508	2.9270841
6063.73	575250	0.0992085	5/9/19 3:18	-0.0077595	-0.2323712	5.03106E+13	2.9263997	6.70217E+12	-0.0241747	-0.7239517	2.9263997
6046.71	575250	0.09893	5/9/19 3:23	-0.0077595	-0.2323712	5.03106E+13	2.9181857	6.70217E+12	-0.0246606	-0.7385028	2.9181857
6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.0228565	-0.684476	2.933671
6058.26	575252	0.0992865	5/9/19 3:33	-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117215	2.9286995
6064.08	575252	0.0993819	5/9/19 3:38	-0.0077595	0.2323712	5.02257E+13	2.931513	6.70217E+12	-0.0229553	-0.6874347	2.931513
6061.98	575252	0.0993474	5/9/19 3:43	-0.0077595	-0.2323712	5.02257E+13	2.9304978	6.70217E+12	-0.0218107	-0.6531578	2.9304978
6061.61	575252	0.0993414	5/9/19 3:48	-0.0077595	-0.2323712	5.02257E+13	2.9303189	6.70217E+12	-0.0228651	-0.6847335	2.9303189
6055.44	575252	0.0992403	5/9/19 3:53	-0.0077595	-0.2323712	5.02257E+13	2.9273362	6.70217E+12	-0.0258057	-0.7727947	2.9273362
6048.17	575253	0.1013391	5/9/19 3:58	-0.0077595	-0.2323712	4.91264E+13	2.9892481	6.70217E+12	-0.0222549	-0.6664601	2.9892481
6036.54	575253	0.1011443	5/9/19 4:03	-0.0064119	-0.192015	4.91264E+13	2.9835001	6.70217E+12	-0.0201096	-0.6022155	2.9835001
6032.68	575254	0.1009675		-0.0064119		4.9181E+13	2.9782848	6.70217E+12	-0.0220837	-0.6613332	2.9782848
6036.52	575254	0.1010317		-0.0064119		4.9181E+13	2.9801806	6.70217E+12	-0.0189611		2.9801806
6048.03	575254	0.1012244				4.9181E+13	2.985863	6.70217E+12	-0.0284786		2.985863
6049.12	575254	0.1012426		-0.0064119		4.9181E+13	2.9864011	6.70217E+12	-0.0265276		2.9864011
6047.1	575255	0.102742		-0.0064119		4.84471E+13	3.0306289	6.70217E+12	-0.0220302		3.0306289
6040.01	575255	0.1026215		-0.0064119		4.84471E+13	3.0270756	6.70217E+12	-0.0249572		3.0270756
6039.32	575256	0.1033913		-0.0064119		4.80809E+13	3.0497802	6.70217E+12	-0.0273476		3.0497802
6037.47	575256	0.1033596				4.80809E+13	3.0488459	6.70217E+12	-0.0285916		3.0488459
6046.95	575256	0.1035219		-0.0064119		4.80809E+13	3.0536332	6.70217E+12	-0.0276954		3.0536332
6051.57	575256	0.103601		-0.0064119		4.80809E+13	3.0559662	6.70217E+12	-0.0189461		3.0559662
6052.41	575257	0.1025409		-0.0064119		4.85847E+13	3.0246966	6.70217E+12	-0.0213883		3.0246966
6058.73	575257	0.102648		-0.001004		4.85847E+13	3.027855	6.70217E+12	-0.0284985		3.027855
6054.8	575258	0.1018989		-0.001004		4.89101E+13	3.0057607	6.70217E+12	-0.0254371		3.0057607
6051.38	575258	0.1018414		-0.001004		4.89101E+13	3.0040629	6.70217E+12	-0.0222254	1	3.0040629
6048.3	575258	0.1017896		-0.001004		4.89101E+13	3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
6051.14	575258	0.1018373		-0.001004		4.89101E+13	3.0039438	6.70217E+12	-0.0272051		3.0039438
6057.19	575258	0.1019392		-0.001004		4.89101E+13	3.0069471	6.70217E+12	-0.026005		3.0069471
6059.15	575259	0.1040181		-0.001004		4.79481E+13	3.0682693	6.70217E+12	-0.0148258		3.0682693
6061.72	575260	0.1037848		-0.001004		4.80762E+13	3.0613901	6.70217E+12	-0.0244808		3.0613901
6057.72	575260	0.1037164	5/9/19 5:43	-0.001004	-0.0300665	4.80762E+13	3.05937	6.70217E+12	-0.0243887	-0.7303603	3.05937
6057.7	575260	0.103716	5/9/19 5:48	-0.001004	-0.0300665	4.80762E+13	3.0593599	6.70217E+12	-0.0198852	-0.5954955	3.0593599
6047.35	575260	0.1035388		-0.001004		4.80762E+13	3.0541327	6.70217E+12	-0.0198875		3.0541327
6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
6040.28	575262	0.1043375		0.0099891		4.76524E+13	3.077692	6.70217E+12	-0.0173633		3.077692
6034.01	575263	0.1041918		0.0099891		4.76695E+13	3.0733946	6.70217E+12	-0.018275		3.0733946
6034.26	575263	0.1041961		0.0099891		4.76695E+13	3.0735219	6.70217E+12	-0.0079803	Υ	3.0735219
6037.47	575263	0.1042516		0.0099891	0.2991402	4.76695E+13	3.0751569	6 70217F±12	201000	-0 084228	2 0751560
CO3E C1									-0.0020120		3.07.71303

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	٦ê	657	654	683	483	3.14438	931	448	912	154
٦	realized_rev	3.142657	3.1462654	3.1456683	6.0112483		3.142793	3.1440448	3.1500675	3.1563154
¥	real_time_LMP_rev	0.4300761	0.5518422	0.6786873	6.0112483	0.9206414	0.8800547	1.0459592	0.7809072	0.3540445
_	real_time_LMP	0.0143614	0.0184275	0.0226632	0.2007318	0.0307427	0.0293874	0.0349274	0.0260766	0.0118225
_	network_diff	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	6.70217E+12	3.1563154 6.70217E+12
I	mining_rev	3.142657	3.1462654	3.1456683	3.1418714	3.14438	3.1427931	3.1440448	3.1500675	
U	est_network_hashrate	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13	4.63618E+13
ш.	day_ahead_LMP_rev	0.6508069	0.6508069	0.6508069	0.6508069	0.6527205	0.6527205	0.6527205	0.6527205	0.6527205
ш	day_ahead_LMP	0.0217322	0.0217322	0.0217322	0.0217322	0.0217961	0.0217961	0.0217961	0.0217961	0.0217961
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U	breakeven_mining_cost	0.1065399	0.1066622	0.106642	0.1065133	0.1065983	0.1065445	0.1065869	0.1067911	0.1070029
В	BTC_price block_height	575284	575284	575284	575284	575284	575284	575284	575284	575284
∢	BTC_price	6000.73	6007.62	6006.48	5999.23	6004.02	66.0009	6003.38	6014.88	6026.81
	-	818	819	820	821	822	823	824	825	826

Message

From: Austin Storms [austin@bearbox.io]

on behalf of Austin Storms <austin@bearbox.io> [austin@bearbox.io]

Sent: 5/6/2019 4:51:10 PM

To: Todd Garland [todd@buysellads.com]
Subject: Re: Fwd: EXELON DATA MODELING DUMP 2

Hey Todd,

Same! Great talking to you as well and thanks for the advice on not selling myself short - I've been thinking about it since out conversation.

I've got two different models for breakeven - the sheet I sent you is just the breakeven cost to turn_off your miners (where mining_revenue = electricity_cost_opex) in 5-min increments (see below).

```
def get_breakeven_USD_per_kWh(miner_hashrate, hashrate, BTC_price, kW_load):
    try:
        breakeven = ((miner_hashrate / hashrate) * (block_reward * 144) * (BTC_price)) / (kW_load *
24)
    return breakeven
    except Exception as e:
        print("Error: " + str(e))
```

There's another model that amortizes the cost of the miners (S9s or equivalent generation) over a 12-month useful life with \$0 resale value - but it wasn't done by the time I got to Boston. I just finished converting the scripts from local SQLite3 dbs to postgreSQL this morning and will send over some data when it's run for a day or two if you're interested.

```
def get_breakeven_USD_per_kWh(miner_hashrate, hashrate, BTC_price, kW_load, miner_cost,
expected_blocks_daily):
    try:
        revenue_5min = ((miner_hashrate / hashrate) * (block_reward * expected_blocks_daily) *
(BTC_price))/(12*24)
    #print(revenue_5min)

    amortized_5min_cost = ((miner_cost * 272) / (12 * 24 * 30.5 * 12))
    #print(amortized_5min_cost)

    actual_5min_revenue = revenue_5min - amortized_5min_cost
    #print(actual_5min_revenue)

    breakeven = actual_5min_revenue/ (kW_load/12)

    return breakeven

except_Exception_as e:
    print("Error: " + str(e))
```

So I'm not sure that I need to get the PDUs UL certified themselves - they aren't manufactured, they're simply assembled out of existing components. I'm waiting to hear back from them on field-testing requirements and will let you know when I do.

Talk soon!

A

Austin M. Storms BearBox, LLC 611 O' Keefe Avenue

Bearbox v Lancium Trial Exhibit **TX919**

New Orleans, LA 70113 austin@bearbox.io

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On Mon, May 6, 2019 at 3:17 PM Todd Garland < todd@buysellads.com wrote: Hi Austin,

I hope you had a nice time in Boston last week. It was great to put a face to the name and meet in person.

Question about the sheets... what do you factor into the "breakeven_mining_cost"? Is it _all_ of the costs (hardware, labor, etc etc) or something else with less subjectivity to it (e.g. the amortization period of the hardware is definitely subjective)?

Do you have a sense what it would take cost wise to get your PDU's certified?

- Todd

Austin Storms wrote on 5/3/19 3:51 PM:

See attached

Begin forwarded message:

From: Austin Storms <a windle bearbox.io > Date: May 3, 2019 at 12:15:58 PM EDT To: Austin Storms <a windle bearbox.io > Cc: Ben Hakes
 Sen@paretoadvisors.com >

Subject: EXELON DATA MODELING DUMP 2

See attached.

Austin M. Storms BearBox, LLC 611 O' Keefe Avenue New Orleans, LA 70113 austin@bearbox.io

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Case: 23-1922 Document: 39-7 Page: 254 Filed: 01/02/2024

Message

Austin Storms [austin@bearbox.io] From:

on behalf of Austin Storms <austin@bearbox.io> [austin@bearbox.io]

Sent: 5/3/2019 2:51:35 PM To: todd@buysellads.com

Subject: Fwd: EXELON DATA MODELING DUMP 2

Attachments: EXELON4.csv; ATT00002.bin; EXELON7_8.csv; ATT00004.bin; EXELON5_6.csv; ATT00006.bin; EXELON_HPW1.csv;

ATT00008.bin; EXELON10_11.csv; ATT00010.bin; EXELON9.csv; ATT00012.bin

See attached.

Begin forwarded message:

From: Austin Storms <austin@bearbox.io> Date: May 3, 2019 at 12:15:58 PM EDT To: Austin Storms < austin@bearbox.io > Cc: Ben Hakes <ben@paretoadvisors.com>

Subject: EXELON DATA MODELING DUMP 2

See attached.

Austin M. Storms BearBox, LLC 611 O' Keefe Avenue New Orleans, LA 70113 austin@bearbox.io

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Trial Exhibit

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3	22:57.3	574204	6.35303E+12		5320.01	0.0051274	0.0047409	0.0737656	0.1586418	0.1466834	2.2480744	2.2480744
4	28:00.5	574204	6.35303E+12	5.38327E+13	5319.51	0.0051274	0.0044381	0.0737587	0.1586418	0.1373148	2.2478631	2.2478631
5	33:03.6 38:06.6	574204 574205	6.35303E+12 6.35303E+12	5.38327E+13 5.30839E+13	5321.94 5321.95	0.0051274 0.0051274	0.0035711 0.0020195	0.0737924 0.0748335	0.1586418 0.1586418	0.1104898 0.0624833	2.24889	2.24889 2.2806172
7	43:09.6	574205	6.35303E+12	5.30839E+13	5326.19	0.0051274	0.0006489	0.0748931	0.1586418	0.020077	2.2824342	2.2824342
8	48:12.6	574206	6.35303E+12	5.44532E+13	5326.23	0.0051274	0.0036433	0.0730105	0.1586418	0.1127237	2.2250598	2.2250598
9	53:15.7 58:18.9	574206 574207	6.35303E+12 6.35303E+12	5.44532E+13 5.39845E+13	5327.84 5327.8	0.0051274 0.0051274	0.0056932 -0.0005791	0.0730325 0.073666	0.1586418 0.1586418	0.1761476 -0.0179174	2.2257324 2.2450369	2.2257324 2.2450369
11	03:21.8	574207	6.35303E+12	5.39845E+13 5.39845E+13	5327.8	0.0031274	0.0005791	0.0736577	0.1586418	0.0356986	2.2450369	2.2450369
12	08:24.9	574208	6.35303E+12	5.34662E+13	5325.01	0.0003049	-0.0046871	0.0743412	0.0094336	-0.1450189	2.2656139	2.2656139
13	13:28.6	574209	6.35303E+12	5.33477E+13	5325.01	0.0003049	-0.009641	0.0745063	0.0094336	-0.2982925	2.2706452	2.2706452
14 15	18:31.5 23:35.0	574209 574210	6.35303E+12 6.35303E+12	5.33477E+13 5.36221E+13	5321.01 5327.95	0.0003049 0.0003049	-0.0003526 -0.0001515	0.0744503 0.074166	0.0094336 0.0094336	-0.0109094 -0.0046874	2.2689395 2.2602762	2.2689395 2.2602762
16	28:38.3	574212	6.35303E+12	5.54528E+13	5325.19	0.0003049	-0.0193232	0.0716803	0.0094336	-0.5978598	2.184522	2.184522
17	33:41.4	574212	6.35303E+12	5.54528E+13	5323.36	0.0003049	-0.0316161	0.0716557	0.0094336	-0.9782021	2.1837713	2.1837713
18	38:44.4	574215	6.35303E+12	5.58834E+13	5323.1	0.0003049	-0.0307121	0.0711001	0.0094336	-0.9502324	2.1668382	2.1668382
19 20	43:47.3 48:50.3	574215 574215	6.35303E+12 6.35303E+12	5.58834E+13 5.58834E+13	5323.1 5325.88	0.0003049 0.0003049	-0.0298462 -0.0268598	0.0711001 0.0711372	0.0094336 0.0094336	-0.9234414 -0.8310422	2.1668382 2.1679698	2.1668382 2.1679698
21	53:53.3	574215	6.35303E+12	5.58834E+13	5326.72	0.0003049	-0.0306503	0.0711484	0.0094336	-0.9483203	2.1683117	2.1683117
22	58:56.4	574216	6.35303E+12	5.54406E+13	5326.69	0.0003049	-0.0316255	0.0717163	0.0094336	-0.978493	2.1856184	2.1856184
23	03:59.3	574216	6.35303E+12	5.54406E+13	5330.34	-0.0001867	-0.0309598	0.0717654		-0.9578962	2.187116	2.187116
24 25	09:02.8 14:05.9	574219 574220	6.35303E+12 6.35303E+12	5.59245E+13 5.59914E+13	5330.78 5329.45	-0.0001867 -0.0001867	-0.0034559 -0.0195392	0.0711504 0.0710476	-0.0057765 -0.0057765	-0.1069255 -0.6045428	2.1683719 2.1652392	2.1683719 2.1652392
26	19:08.9	574220	6.35303E+12		5343.74	-0.0001867	-0.0179458	0.0712381	-0.0057765	-0.5552431	2.1710449	2.1710449
27	24:11.9	574223	6.35303E+12	5.60912E+13	5334.1	-0.0001867	-0.027899	0.0709831	-0.0057765	-0.8631951	2.1632744	2.1632744
28 29	29:14.9 34:17.9	574226 574226	6.35303E+12 6.35303E+12	5.60441E+13 5.60441E+13	5330.7 5333.77	-0.0001867 -0.0001867	-0.030306 -0.0264455	0.0709974 0.0710383	-0.0057765 -0.0057765	-0.9376676 -0.8182238	2.1637101 2.1649562	2.1637101 2.1649562
30	34:17.9	574225	6.35303E+12		5333.77	-0.0001867	-0.0264455	0.0710383	-0.0057765	-0.8182238 -0.6113466	2.1649562	2.1649562
31	44:24.0	574227	6.35303E+12		5339.99	-0.0001867	-0.0202167	0.0715959	-0.0057765	-0.6255047	2.1819493	2.1819493
32	49:27.4	574228	6.35303E+12	5.52451E+13	5343.15	-0.0001867	-0.0198226	0.0721925	-0.0057765	-0.6133112	2.2001303	2.2001303
33 34	54:30.5 59:33.7	574229 574229	6.35303E+12 6.35303E+12	5.5892E+13 5.5892E+13	5338.61 5336.4	-0.0001867 -0.0001867	-0.0294808 -0.0238324	0.0712963 0.0712668	-0.0057765 -0.0057765	-0.912136 -0.7373745	2.1728179 2.1719184	2.1728179 2.1719184
35	04:36.7	574229	6.35303E+12	5.5892E+13 5.5892E+13	5336.4	-0.0001867	-0.0238324	0.0713246	-0.0057765	-0.7373745	2.1719184	2.1719184
36	09:39.8	574229	6.35303E+12		5341.69	-0.0002365	-0.0309356	0.0713374	-0.0073173	-0.9571475	2.1740715	2.1740715
37	14:43.1	574230	6.35303E+12		5347.99	-0.0002365	-0.030382	0.0721408	-0.0073173	-0.9400191	2.1985565	2.1985565
38 39	19:46.4 24:49.4	574230 574231	6.35303E+12 6.35303E+12	5.53347E+13 5.49411E+13	5348.14 5341.24	-0.0002365 -0.0002365	-0.0302146 -0.0278795	0.0721428 0.072566	-0.0073173 -0.0073173	-0.9348397 -0.8625917	2.1986182 2.211515	2.1986182 2.211515
40	29:53.0	574231	6.35303E+12	5.49411E+13	5342.72	-0.0002365	-0.0280598	0.0725861	-0.0073173	-0.8681702	2.2121278	2.2121278
41	34:56.1	574232	6.35303E+12	5.47061E+13	5349.99	-0.0002365	-0.0264476	0.0729971	-0.0073173	-0.8182887	2.2246529	2.2246529
42	39:59.3	574232	6.35303E+12		5346.06	-0.0002365	-0.0271937	0.0729435	-0.0073173	-0.8413731	2.2230187	2.2230187
43	45:02.9 50:06.0	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5350.69 5358.36	-0.0002365 -0.0002365	-0.0271939 -0.0287285	0.0730067 0.0731113	-0.0073173 -0.0073173	-0.8413793 -0.8888598	2.224944	2.224944 2.2281334
45	55:09.1	574232	6.35303E+12	5.47061E+13	5358.38	-0.0002365	-0.0279997	0.0731116	-0.0073173	-0.8663107	2.2281417	2.2281417
46	00:12.7	574232	6.35303E+12	5.47061E+13	5374.99	0.0021778	-0.0258886	0.0733382	0.0673811	-0.8009933	2.2350485	2.2350485
47 48	05:15.7	574233 574233	6.35303E+12	5.35475E+13	5380.56 5358.81	0.0021778	-0.0030487 -0.0011696	0.0750026 0.0746994	0.0673811 0.0673811	-0.0943268 -0.0361874	2.2857722 2.2765324	2.2857722 2.2765324
49	10:18.8 15:21.8	574233	6.35303E+12 6.35303E+12	5.35475E+13 5.35475E+13	5362.05	0.0021778 0.0021778	-0.0011696	0.0747446	0.0673811	-0.0361874	2.2779088	2.2779088
50	20:24.8	574233	6.35303E+12	5.35475E+13	5360.02	0.0021778	-0.0182287	0.0747163	0.0673811	-0.563996	2.2770464	2.2770464
51	25:28.4	574234	6.35303E+12	5.31615E+13	5359.43	0.0021778	-0.0150284	0.0752505	0.0673811	-0.4649787	2.2933275	2.2933275
52 53	30:31.4 35:34.9	574234 574234	6.35303E+12 6.35303E+12	5.31615E+13 5.31615E+13	5349.43 5344.78	0.0021778 0.0021778	-0.0150284 -0.0164614	0.0751101 0.0750448	0.0673811 0.0673811	-0.4649787 -0.5093157	2.2890484 2.2870587	2.2890484 2.2870587
54	40:37.9	574236	6.35303E+12	5.29706E+13	5350.2	0.0021778	-0.0316425	0.0753917	0.0673811	-0.9790189	2.2976295	2.2976295
55	45:40.9	574237	6.35303E+12	5.26741E+13	5349.03	0.0021778	-0.0303346	0.0757995	0.0673811	-0.9385525	2.3100592	2.3100592
56	50:43.9	574238	6.35303E+12	5.2719E+13	5355.31	0.0021778	-0.0059234	0.0758238	0.0673811	-0.18327	2.3107995	2.3107995
57 58	55:46.8 00:49.8	574238 574239	6.35303E+12 6.35303E+12	5.2719E+13 5.28168E+13	5349.01 5350.18	0.0021778 0.011704	-0.0018265 -0.0315837	0.0757346 0.0756109	0.0673811 0.3621218	-0.0565119 -0.9771997	2.308081 2.3043114	2.308081 2.3043114
59	05:52.7	574239	6.35303E+12	5.28168E+13	5349.09	0.011704	-0.0304342	0.0755955	0.3621218	-0.9416341	2.303842	2.303842
60	10:55.6	574240	6.35303E+12		5348.27	0.011704	-0.0002699	0.0759448	0.3621218	-0.0083507	2.314487	2.314487
61	15:58.4 21:01.3	574243 574245	6.35303E+12 6.35303E+12	5.35108E+13 5.38531E+13	5354.35 5358.66	0.011704 0.011704	0.0001733 0.0007385	0.0746885 0.0742735	0.3621218 0.3621218	0.0053619 0.0228492	2.2762	2.2762 2.2635505
63	26:04.2	574246	6.35303E+12		5357.51	0.011704	-0.0035407	0.0738276		-0.1095493	2.2499632	2.2499632
64	31:07.4	574246	6.35303E+12	5.41667E+13	5361.77	0.011704	-0.0018346	0.0738863	0.3621218	-0.0567625	2.2517522	2.2517522
65	36:10.5	574246 574246	6.35303E+12		5361.98	0.011704	0.0045642	0.0738892	0.3621218	0.1412163	2.2518404	2.2518404
66 67	41:13.6 46:16.7	574246	6.35303E+12 6.35303E+12		5366.22 5365.01	0.011704 0.011704	-0.0158533 -0.0018765	0.0739476 0.0739567	0.3621218 0.3621218	-0.4905011 -0.0580589	2.2536211 2.2538956	2.2536211 2.2538956
68	51:19.6	574251	6.35303E+12	5.52479E+13	5360.99	0.011704	0.001301	0.0724298	0.3621218	0.0402529	2.2073645	2.2073645
69	56:22.6	574251	6.35303E+12		5356.1	0.011704	0.0012559	0.0723638		0.0388575	2.2053511	2.2053511
70 71	01:25.7 06:29.7	574252 574252	6.35303E+12 6.35303E+12		5358.27 5360.85	0.0165726 0.0165726	0.0046048 0.157986	0.0726423 0.0726772	0.5127562 0.5127562	0.1424725 4.8880868	2.2138386 2.2149045	2.2138386 4.8880868
72	11:34.4	574252	6.35303E+12 6.35303E+12		5360.85	0.0165726	0.157986	0.072072		4.8880868 0.4037794	2.2149045	4.8880868 2.1943466
73	16:37.5	574255	6.35303E+12	5.5978E+13	5358.19	0.0165726	0.0094017	0.0714478	0.5127562	0.2908886	2.1774367	2.1774367
74	21:40.6	574256	6.35303E+12		5364.52	0.0165726	0.0100556	0.0718465	0.5127562	0.3111203	2.1895872	2.1895872
75 76	26:43.8 31:46.9	574257 574257	6.35303E+12 6.35303E+12		5368.93 5369.94	0.0165726 0.0165726	0.0078173 0.0063222	0.0716229 0.0716363		0.2418673 0.1956089	2.182771 2.1831816	2.182771 2.1831816
77	36:49.8	574257	6.35303E+12		5368.01	0.0165726	0.0063222	0.0716363		0.1923787	2.1831816	2.1831816
78	41:53.7	574258	6.35303E+12	5.61961E+13	5363.48	0.0165726	0.007283	0.0712408	0.5127562	0.225336	2.1711281	2.1711281
79	46:56.9	574258	6.35303E+12		5363.48	0.0165726	0.0070341	0.0712408		0.2176351	2.1711281	2.1711281
80 81	52:00.0 57:06.7	574258 574258	6.35303E+12 6.35303E+12		5367.12 5368.74	0.0165726 0.0165726	0.0072728 0.0087738	0.0712892 0.0713107		0.2250204 0.2714614	2.1726015 2.1732573	2.1726015 2.1732573
82	02:09.6	574258	6.35303E+12		5363.48	0.0168443	0.0087738	0.0712408		0.2897222	2.1732573	2.1732573
83	07:12.8	574258	6.35303E+12	5.61961E+13	5360.86	0.0168443	0.013432	0.071206	0.5211626	0.4155861	2.1700675	2.1700675
84	12:16.3	574260	6.35303E+12		5360.85	0.0168443	0.0108808	0.0732504		0.336652	2.2323717	2.2323717
85 86	17:19.2 22:22.2	574260 574260	6.35303E+12 6.35303E+12		5368.73 5367.1	0.0168443 0.0168443	0.0083528 0.0079968	0.0733581 0.0733358	0.5211626 0.5211626	0.2584356 0.247421	2.2356531 2.2349743	2.2356531 2.2349743
87	27:25.3	574260	6.35303E+12		5367.1	0.0168443	0.0079968	0.0733466		0.2074249	2.2349743	
88	32:28.2	574261	6.35303E+12	5.36607E+13	5369.99	0.0168443	0.0077119	0.0746974	0.5211626	0.2386062	2.2764693	2.2764693
89	37:31.2	574261	6.35303E+12		5367.41	0.0168443	0.007023	0.0746615		0.2172916	2.2753756	2.2753756
90 91	42:34.3 47:37.2	574261 574261	6.35303E+12 6.35303E+12		5361.03 5361.94	0.0168443 0.0168443	0.0080277 0.0080701	0.0745727 0.0745854		0.248377 0.2496889	2.2726709 2.2730567	2.2726709 2.2730567
92	52:40.2	574261	6.35303E+12		5373.41	0.0168443	0.0102078	0.0747449		0.3158293	2.2779191	2.2779191
93	57:43.1	574263	6.35303E+12	5.26165E+13	5380.52	0.0168443	0.0081298	0.0763292	0.5211626	0.251536	2.3262005	2.3262005
94	02:46.1	574266	6.35303E+12		5372.23	0.0186731	0.0076622	0.0726821		0.2370685	2.215053	2.215053
95	07:49.0	574268	6.35303E+12	5.60115E+13	5366.01	0.0186731	0.0072848	0.0715093	0.5777457	0.2253917	2.1793098	2.1793098

1	A	B	C	D	E DTCi	F	G	H	 	J	K	L
96	datetime b	olock_height 574269	network_diff 6.35303E+12	est_network_hashrate 5.58958E+13	BTC_price 5350.76	day_ahead_LMP 0.0186731	real_time_LMP 0.008065	breakeven_mining_cost 0.0714536	day_ahead_LMP_rev 0.5777457	real_time_LMP_rev 0.2495311	mining_rev 2.1776143	realized_rev 2.1776143
97	17:54.9	574270	6.35303E+12	5.6144E+13	5352.52	0.0186731	0.0075466	0.0711611	0.5777457	0.2334918	2.1686995	2.1686995
98	22:57.9	574271	6.35303E+12	5.6095E+13	5356.14	0.0186731	0.007405	0.0712715	0.5777457	0.2291107	2.172064	2.172064
99 100	28:01.0	574271 574271	6.35303E+12 6.35303E+12	5.6095E+13	5350.02	0.0186731	0.0072809	0.0711901	0.5777457 0.5777457	0.225271 0.2316942	2.1695821 2.1714394	2.1695821
101	33:04.1 38:07.2	574271	6.35303E+12	5.6095E+13 5.53104E+13	5354.6 5354.48	0.0186731 0.0186731	0.0074885 0.0079015	0.071251 0.0722601	0.5777457	0.2444724	2.2021917	2.1714394 2.2021917
102	43:10.6	574274	6.35303E+12	5.53441E+13	5355.03	0.0186731	0.0099941	0.0722236	0.5777457	0.3092175	2.2010786	2.2010786
103	48:13.7	574274	6.35303E+12	5.53441E+13	5354.14	0.0186731	0.0113173	0.0722116	0.5777457	0.3501573	2.2007128	2.2007128
104 105	53:17.4 58:20.3	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5355.18 5369.19	0.0186731 0.0186731	0.0164817 0.0138726	0.0722256 0.0724146	0.5777457 0.5777457	0.5099438 0.4292182	2.2011403	2.2011403 2.2068988
106	03:23.5	574274	6.35303E+12	5.53441E+13	5370.66	0.0186731	0.0091036	0.0724146	0.6580165	0.2816654	2.2000900	2.2008988
107	08:26.5	574274	6.35303E+12	5.53441E+13	5369.11	0.0212675	0.0082747	0.0724135	0.6580165	0.2560192	2.2068659	2.2068659
108	13:29.7	574274	6.35303E+12	5.53441E+13	5363.09	0.0212675	0.0151147	0.0723323	0.6580165	0.4676488	2.2043915	2.2043915
109	18:32.7	574275	6.35303E+12 6.35303E+12	5.36343E+13	5365.75	0.0212675	0.0155968	0.0746751	0.6580165	0.482565	2.2757902	2.2757902
111	23:35.6 28:38.4	574275 574275	6.35303E+12	5.36343E+13 5.36343E+13	5369.99 5367.99	0.0212675 0.0212675	0.0157182 0.0155447	0.0747341 0.0747063	0.6580165 0.6580165	0.4863211 0.480953	2.2775885 2.2767402	2.2775885 2.2767402
112	33:41.8	574277	6.35303E+12	5.50501E+13	5371.77	0.0212675	0.0198338	0.0728363	0.6580165	0.6136578	2.2197521	2.2197521
113	38:45.1	574279	6.35303E+12	5.54528E+13	5384.78	0.0212675	0.0190493	0.0724824	0.6580165	0.5893853	2.2089672	2.2089672
114	43:48.1	574281	6.35303E+12	5.67946E+13	5379.99	0.0212675	0.0170259	0.0707071	0.6580165	0.5267813	2.1548622	2.1548622
115 116	48:51.0 53:54.3	574281 574282	6.35303E+12 6.35303E+12	5.67946E+13 5.6096E+13	5377.85 5375.53	0.0212675 0.0212675	0.0169016 0.0131463	0.070679 0.0715283	0.6580165 0.6580165	0.5229355 0.4067465	2.154005 2.1798898	2.154005 2.1798898
117	58:57.4	574282	6.35303E+12	5.6096E+13	5379.99	0.0212675	0.0178311	0.0715877	0.6580165	0.5516942	2.1816984	2.1816984
118	04:00.6	574283	6.35303E+12	5.56063E+13	5387.53	0.0232187	0.0178063	0.0723193	0.7183866	0.5509269	2.2039945	2.2039945
119	09:05.0	574283	6.35303E+12	5.56063E+13	5405.85	0.0232187	0.0198195	0.0725652	0.7183866	0.6132153	2.211489	2.211489
120 121	14:08.3 19:11.6	574283 574284	6.35303E+12 6.35303E+12	5.56063E+13 5.64188E+13	5409.86 5401.19	0.0232187 0.0232187	0.019659 0.020979	0.072619 0.0714585	0.7183866 0.7183866	0.6082495 0.6490903	2.2131295 2.1777626	2.2131295 2.1777626
122	24:14.7	574284	6.35303E+12	5.64188E+13	5401.19	0.0232187	0.0205583	0.07146	0.7183866	0.6360738	2.17778069	2.1778069
123	29:17.8	574285	6.35303E+12	5.57835E+13	5408.19	0.0232187	0.0200525	0.072366	0.7183866	0.6204244	2.2054203	2.2054203
124	34:20.7	574285	6.35303E+12	5.57835E+13	5406.02	0.0232187	0.0204614	0.072337	0.7183866	0.6330757	2.2045354	2.2045354
125 126	39:23.6 44:26.7	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5400.59	0.0232187 0.0232187	0.0195542 0.0203561	0.0722643 0.0722823	0.7183866 0.7183866	0.6050069 0.6298177	2.202321 2.2028675	2.202321 2.2028675
126	49:29.7	574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5401.93 5404.01	0.0232187	0.0203561	0.0722823	0.7183866	0.6298177	2.2028675	2.2028675
128	54:32.7	574285	6.35303E+12	5.57835E+13	5401.27	0.0232187	0.0203132	0.0722734	0.7183866	0.6284904	2.2025983	2.2025983
129	59:36.0	574285	6.35303E+12	5.57835E+13	5405.56	0.0232187	0.0202868	0.0723309	0.7183866	0.6276736	2.2043478	2.2043478
130 131	04:39.2 09:42.2	574285 574286	6.35303E+12 6.35303E+12	5.57835E+13 5.36818E+13	5407.94 5415.78	0.0243161 0.0243161	0.0203594 0.0205197	0.0723627 0.0753047	0.7523401 0.7523401	0.6299198 0.6348795	2.2053183	2.2053183 2.2949778
132	14:45.4	574286	6.35303E+12	5.50908E+13	5415.78	0.0243161	0.0205197	0.0732539	0.7523401	0.6327973	2.2324797	2.2949778
133	19:48.6	574287	6.35303E+12	5.50908E+13	5390.94	0.0243161	0.0204571	0.0730422	0.7523401	0.6329427	2.2260258	2.2260258
134	24:51.7	574288	6.35303E+12	5.6446E+13	5374.99	0.0243161	0.0204895	0.0710776	0.7523401	0.6339451	2.1661531	2.1661531
135 136	29:54.9 34:58.3	574288 574289	6.35303E+12 6.35303E+12	5.6446E+13 5.61643E+13	5391.07 5386.28	0.0243161 0.0243161	0.020504 0.0215335	0.0712902 0.0715842	0.7523401 0.7523401	0.6343938 0.6662465	2.1726335 2.1815923	2.1726335 2.1815923
137	40:02.0	574289	6.35303E+12	5.61643E+13	5381.99	0.0243161	0.0216111	0.0715272	0.7523401	0.6686474	2.1613923	2.1613923
138	45:05.1	574289	6.35303E+12	5.61643E+13	5375.06	0.0243161	0.0210446	0.0714351	0.7523401	0.6511199	2.1770479	2.1770479
139	50:08.2	574290	6.35303E+12	5.56905E+13	5379.99	0.0243161	0.0216184	0.0721089	0.7523401	0.6688733	2.1975834	2.1975834
140 141	55:11.2	574292	6.35303E+12	5.59818E+13	5380.89	0.0243161	0.021687	0.0717456	0.7523401	0.6709958	2.1865119	2.1865119
141	00:14.3 05:17.2	574294 574295	6.35303E+12 6.35303E+12	5.66874E+13 5.71185E+13	5378.02 5388.44	0.0257744 0.0257744	0.0216429 0.0212776	0.0708148 0.0704165	0.7974599 0.7974599	0.6696313 0.6583289	2.1581456 2.1460054	2.1581456 2.1460054
143	10:20.9	574296	6.35303E+12	5.69506E+13	5391.26	0.0257744	0.0214204	0.070661	0.7974599	0.6627472	2.1534583	2.1534583
144	15:24.1	574298	6.35303E+12	5.77593E+13	5389.31	0.0257744	0.0214204	0.0696465	0.7974599	0.6627472	2.1225393	2.1225393
145 146	20:27.3	574298 574298	6.35303E+12 6.35303E+12	5.77593E+13 5.77593E+13	5388.39	0.0257744	0.0220102	0.0696346 0.0697024	0.7974599	0.6809956	2.122177	2.122177
147	25:31.0 30:34.5	574298	6.35303E+12 6.35303E+12	5.77593E+13 5.69012E+13	5393.64 5395.3	0.0257744	0.025403 0.0261091	0.0697024	0.7974599 0.7974599	0.7859688 0.8078156	2.1242446	2.1242446 2.1569462
148	35:39.5	574301	6.35303E+12	5.7613E+13	5391.27	0.0257744	0.0834465	0.0698488	0.7974599	2.5818347	2.1287047	2.5818347
149	40:44.8	574301	6.35303E+12	5.7613E+13	5390.99	0.0257744	0.2182033	0.0698452	0.7974599	6.7512101	2.1285942	6.7512101
150 151	45:49.0	574302 574302	6.35303E+12 6.35303E+12	5.77583E+13 5.77583E+13	5394.98 5395.4	0.0257744 0.0257744	0.15508	0.069721	0.7974599	4.7981752 5.4660368	2.1248099 2.1249753	4.7981752 5.4660368
152	50:52.9 55:56.9	574304	6.35303E+12	5.7411E+13	5395.4	0.0257744	0.1766657 0.174439	0.0697264 0.0701432	0.7974599 0.7974599	5.3971427	2.1249733	5.3971427
153	01:01.0	574305	6.35303E+12	5.8471E+13	5392.45	0.0279426	0.2174554	0.0688389	0.864544	6.7280701	2.0979265	6.7280701
154	06:05.1	574305	6.35303E+12	5.8471E+13	5393.6	0.0279426	0.0374936	0.0688536	0.864544	1.160052	2.0983739	2.0983739
155 156	11:09.9 16:13.3	574305 574307		5.8471E+13 5.89967E+13	5393.59 5393.1	0.0279426	0.0279332 0.0249637	0.0688534 0.0682337	0.864544 0.864544	0.8642532 0.7723769	2.09837	2.09837 2.0794831
157	21:16.3	574307	6.35303E+12 6.35303E+12	6.00748E+13	5393.1	0.0279426	0.0249637	0.0670578	0.864544	0.7973547	2.0794831	2.0794831
158	26:19.2	574310	6.35303E+12	6.02983E+13	5396.18	0.0279426	0.025585	0.066799	0.864544	0.7915999	2.035759	2.035759
159	31:22.5	574311	6.35303E+12	6.01255E+13	5399.99	0.0279426	0.0297997	0.0670382	0.864544	0.9220027	2.0430488	2.0430488
160 161	36:25.4 41:28.4	574311 574312	6.35303E+12 6.35303E+12	6.01255E+13 5.99055E+13	5402.65 5397.01	0.0279426	0.0297908 0.0298367	0.0670712 0.0672472	0.864544 0.864544	0.9217274 0.9231475	2.0440552	2.0440552 2.0494202
162	46:31.4	574312	6.35303E+12	5.99055E+13	5395.01	0.0279426	0.0256849	0.0672223	0.864544	0.7946908	2.0494202	2.0494202
163	51:34.4	574315	6.35303E+12	5.97623E+13	5393.25	0.0279426	0.0284134	0.0673615	0.864544	0.8791106	2.0529008	2.0529008
164	56:37.4	574315	6.35303E+12	5.97623E+13	5390.48	0.0279426	0.025946	0.0673269	0.864544	0.8027692	2.0518464	2.0518464
165 166	01:41.6 06:46.0	574315 574317	6.35303E+12 6.35303E+12	5.97623E+13 6.04051E+13	5386.7 5387.76	0.0296022 0.0296022	0.210997 0.0271557	0.0672796 0.0665768	0.9158921 0.9158921	6.5282472 0.8401974	2.0504076 2.0289892	6.5282472 2.0289892
167	11:50.0	574317	6.35303E+12	6.04051E+13	5387.76	0.0296022	0.0271357	0.0662328	0.9158921	6.9422708	2.0289892	6.9422708
168	16:54.3	574320	6.35303E+12	6.21737E+13	5393.01	0.0296022	0.0486987	0.064746	0.9158921	1.5067378	1.9731924	1.9731924
169	21:59.4	574320	6.35303E+12	6.21737E+13	5399.78	0.0296022	0.0370626	0.0648273	0.9158921	1.1467168	1.9756694	1.9756694
170 171	27:02.3 32:05.3	574320 574321	6.35303E+12 6.35303E+12	6.21737E+13 6.17749E+13	5404.34 5403.12	0.0296022	0.0303724 0.0280097	0.064882 0.0652861	0.9158921 0.9158921	0.9397221 0.8666201	1.9773378 1.989654	1.9773378 1.989654
172	37:08.3	574321	6.35303E+12	6.17749E+13	5403.12	0.0296022	0.0280097	0.0652808	0.9158921	0.8624556	1.989492	1.989492
173	42:11.3	574321	6.35303E+12	6.17749E+13	5409.99	0.0296022	0.02741	0.0653692	0.9158921	0.8480654	1.9921839	1.9921839
174	47:14.3	574321	6.35303E+12	6.17749E+13	5409.99	0.0296022	0.027605	0.0653692	0.9158921	0.8540987	1.9921839	1.9921839
175 176	52:17.2 57:20.0	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5413.5 5407.13	0.0296022 0.0296022	0.0276334 0.0265193	0.0654116 0.0653346	0.9158921 0.9158921	0.8549774 0.8205071	1.9934764 1.9911307	1.9934764 1.9911307
177	02:23.3	574321	6.35303E+12	6.17749E+13	5393.15	0.0296022	0.0265406	0.0653346	0.8942526	0.8211662	1.9859827	1.9859827
178	07:26.3	574321	6.35303E+12	6.17749E+13	5395.3	0.0289028	0.026646	0.0651917	0.8942526	0.8244272	1.9867744	1.9867744
179	12:29.4	574321	6.35303E+12	6.17749E+13	5397.72	0.0289028	0.0263766	0.0652209	0.8942526	0.816092	1.9876655	1.9876655
180	17:32.5	574321	6.35303E+12	6.17749E+13	5399.98	0.0289028	0.0264515	0.0652482	0.8942526	0.8184094	1.9884978	1.9884978
181 182	22:35.6 27:38.6	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5394.06 5393.9	0.0289028 0.0289028	0.0265902 0.026498	0.0651767 0.0651747	0.8942526 0.8942526	0.8227008 0.8198481	1.9863178 1.9862589	1.9863178 1.9862589
183	32:41.7	574322	6.35303E+12	5.8824E+13	5396.06	0.0289028	0.0264345	0.0684716	0.8942526	0.8178834	2.086735	2.086735
184	37:45.1	574322	6.35303E+12	5.8824E+13	5392.94	0.0289028	0.0257328	0.0684321	0.8942526	0.7961728	2.0855284	2.0855284
185 186	42:48.3	574322	6.35303E+12	5.8824E+13	5392.23	0.0289028	0.0270329	0.068423	0.8942526	0.8363979	2.0852539	2.0852539
187	47:51.7 52:54.6	574323 574323	6.35303E+12 6.35303E+12	5.85421E+13 5.85421E+13	5397.35 5406.09	0.0289028 0.0289028	0.026317 0.02719	0.0688178 0.0689292	0.8942526 0.8942526	0.814248 0.8412586	2.097283	2.097283 2.1006792
188	57:58.1	574326	6.35303E+12	5.98016E+13	5402.76	0.0289028	0.0299238	0.0674359	0.8942526	0.9258424	2.0551695	2.0551695
189	03:01.0	574326	6.35303E+12	5.98016E+13	5405.16	0.0298595	0.0354935	0.0674658	0.9238529	1.0981689	2.0560824	2.0560824

	A datetime b	B plack boight	C network diff	D est network hashrate	E BTC price	F day_ahead_LMP	G real time LMP	H broakovon mining cost	day aboad IMP	real time LMP rev	K mining rov	L realized rev
190	08:04.2	olock_height 574326	6.35303E+12	est_network_nashrate 5.98016E+13	BTC_price 5400.27	0.0298595	0.0283365	breakeven_mining_cost 0.0674048	day_ahead_LMP_rev 0.9238529	0.8767313	mining_rev 2.0542223	2.0542223
191	13:10.1	574327	6.35303E+12	5.96067E+13	5403.01	0.0298595	0.0272184	0.0676595	0.9238529	0.8421373	2.0619836	2.0619836
192	18:13.1	574327	6.35303E+12	5.96067E+13	5402.55	0.0298595	0.0254796	0.0676537	0.9238529	0.7883388	2.061808	2.061808
193 194	23:16.5 28:19.6	574328 574328	6.35303E+12 6.35303E+12	5.96752E+13 5.96752E+13	5405.49 5407.99	0.0298595 0.0298595	0.026922 0.0266884	0.0676129 0.0676442	0.9238529 0.9238529	0.8329667 0.8257391	2.0605642 2.0615172	2.0605642 2.0615172
194	33:22.8	574328	6.35303E+12	5.94855E+13	5407.99	0.0298595	0.026884	0.0679373	0.9238529	0.8297984	2.0615172	2.0615172
196	38:26.4	574330	6.35303E+12	5.97035E+13	5414.16	0.0298595	0.0268326	0.0676893	0.9238529	0.8302006	2.0628912	2.0628912
197	43:29.6	574331	6.35303E+12	5.96567E+13	5411.77	0.0298595	0.0255719	0.0677124	0.9238529	0.7911946	2.0635973	2.0635973
198 199	48:32.6 53:36.1	574332 574333	6.35303E+12 6.35303E+12	5.93593E+13 5.9734E+13	5409.61 5404.43	0.0298595 0.0298595	0.0266704 0.0266612	0.0680245 0.0675331	0.9238529 0.9238529	0.8251822 0.8248975	2.0731087 2.0581326	2.0731087 2.0581326
200	58:39.0	574334	6.35303E+12	5.92562E+13	5404.45	0.0298595	0.0266512	0.0680365	0.9238529	0.833997	2.0381328	2.0381326
201	03:42.1	574335	6.35303E+12	5.9018E+13	5401.4	0.028602	0.0279105	0.0683141	0.8849459	0.8635509	2.0819329	2.0819329
202	08:45.2	574335	6.35303E+12	5.9018E+13	5400.05	0.028602	0.0267242	0.068297	0.8849459	0.8268467	2.0814126	
203	13:48.8 18:51.7	574337 574338	6.35303E+12 6.35303E+12	6.04407E+13 6.00814E+13	5403.81 5403.9	0.028602 0.028602	0.0267657 0.026525	0.0667358 0.067136	0.8849459	0.8281308 0.8206835	2.0338321	2.0338321 2.0460298
204	23:55.0	574338	6.35303E+12	6.05704E+13	5404.02	0.028602	0.026048	0.0665954	0.8849459 0.8849459	0.8059251	2.0460298	2.0460298
206	28:58.6	574342	6.35303E+12	6.0482E+13	5406.89	0.028602	0.0265109	0.0667282	0.8849459	0.8202472	2.0336015	2.0336015
207	34:01.7	574343	6.35303E+12	5.99395E+13	5402.19	0.028602	0.0255512	0.0672736	0.8849459	0.7905541	2.0502238	2.0502238
208 209	39:04.8 44:07.8	574343 574344	6.35303E+12	5.99395E+13	5399.98	0.028602 0.028602	0.0262086	0.0672461	0.8849459	0.8108941	2.0493851 2.0611697	2.0493851
210	49:11.2	574344	6.35303E+12 6.35303E+12	5.95861E+13 5.95861E+13	5399.01 5394.85	0.028602	0.0260242 0.0266401	0.0676328 0.0675807	0.8849459 0.8849459	0.8051887 0.8242447	2.0595816	2.0611697 2.0595816
211	54:14.4	574344	6.35303E+12	5.95861E+13	5401.23	0.028602	0.0260209	0.0676606	0.8849459	0.8050866	2.0620172	2.0620172
212	59:17.3	574344	6.35303E+12	5.95861E+13	5398.44	0.028602	0.0262469	0.0676256	0.8849459	0.8120791	2.0609521	2.0609521
213	04:21.4 09:27.4	574346 574347	6.35303E+12 6.35303E+12	5.84022E+13 5.86008E+13	5394.51 5390.6	0.0275993	0.2233023 0.0264187	0.0689463 0.0686629	0.8539223 0.8539223	6.9089732 0.8173946	2.1012014	6.9089732 2.0925629
214	14:30.5	574347	6.35303E+12 6.35303E+12	5.86008E+13 5.86008E+13	5390.6	0.0275993	0.0264187	0.0686629	0.8539223	0.8173946	2.0925629	2.0925629
216	19:33.5	574348	6.35303E+12	5.87322E+13	5396.99	0.0275993	0.0266306	0.0685905	0.8539223	0.8239508	2.0903567	2.0903567
217	24:36.5	574348	6.35303E+12	5.87322E+13	5396.21	0.0275993	0.026318	0.0685806	0.8539223	0.8142789	2.0900545	2.0900545
218	29:41.0	574349	6.35303E+12	5.84595E+13	5396.31	0.0275993	0.2222834	0.0689017	0.8539223	6.8774484 1.1144093	2.0998406	6.8774484
219	34:45.8 39:49.9	574350 574350	6.35303E+12 6.35303E+12	5.91267E+13 5.91267E+13	5395.07 5395.47	0.0275993 0.0275993	0.0360184 0.026792	0.0681086 0.0681136	0.8539223 0.8539223	1.1144093 0.8289445	2.07567	2.07567 2.0758239
221	44:54.1	574351	6.35303E+12	5.92508E+13	5395.05	0.0275993	0.0245607	0.0679657	0.8539223	0.7599081	2.0733235	2.0713145
222	49:58.3	574351	6.35303E+12	5.92508E+13	5393.06	0.0275993	0.0251914	0.0679406	0.8539223	0.7794219	2.0705505	2.0705505
223 224	55:03.7 00:06.8	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5391.73 5391.02	0.0275993	0.0244349 0.0246767	0.0679238 0.0679149	0.8539223 0.8893332	0.7560158 0.7634971	2.0700399	2.0700399 2.0697673
225	05:09.8	574351	6.35303E+12	5.92508E+13	5365.12	0.0287438	0.0247456	0.0675886	0.8893332	0.7656289	2.0598235	2.0598235
226	10:12.8	574351	6.35303E+12	5.92508E+13	5371.89	0.0287438	0.0222708	0.0676739	0.8893332	0.6890586	2.0624227	2.0624227
227	15:16.2	574351	6.35303E+12	5.92508E+13	5379.7	0.0287438	0.0239242	0.0677723	0.8893332	0.7402147	2.0654212	2.0654212
228 229	20:19.5 25:22.4	574353 574353	6.35303E+12 6.35303E+12	5.95341E+13 5.95341E+13	5378.3 5381.03	0.0287438 0.0287438	0.0226519 0.0245188	0.0674322 0.0674664	0.8893332 0.8893332	0.7008498 0.7586117	2.0550568	2.0550568 2.0560999
230	30:25.5	574353	6.35303E+12	5.95341E+13	5392.25	0.0287438	0.024939	0.0676071	0.8893332	0.7716127	2.0500999	2.0500999
231	35:29.0	574353	6.35303E+12	5.95341E+13	5394.16	0.0287438	0.0248882	0.067631	0.8893332	0.7700409	2.0611169	2.0611169
232	40:32.2	574353	6.35303E+12	5.95341E+13	5399.99	0.0287438	0.0245715	0.0677041	0.8893332	0.7602422	2.0633446	2.0633446
233 234	45:35.1 50:38.3	574355 574356	6.35303E+12 6.35303E+12	6.01266E+13 6.01278E+13	5396.88 5394.77	0.0287438 0.0287438	0.0230276 0.0244562	0.0669983 0.0669709	0.8893332 0.8893332	0.7124739 0.7566748	2.0418346	2.0418346 2.0409989
235	55:42.0	574356	6.35303E+12	6.01278E+13	5402.4	0.0287438	0.0216672	0.0670656	0.8893332	0.6703832	2.0409989	2.04033855
236	00:45.1	574357	6.35303E+12	5.98782E+13	5408.98	0.0349099	0.0215159	0.0674272	1.0801123	0.6657019	2.0549051	2.0549051
237	05:48.5	574357	6.35303E+12	5.98782E+13	5415.88	0.0349099	0.021311	0.0675132	1.0801123	0.6593623	2.0575264	2.0575264
238	10:51.8 15:54.9	574359 574359	6.35303E+12 6.35303E+12	5.99023E+13 5.99023E+13	5413.47 5409.99	0.0349099	0.0215195 0.0216145	0.067456 0.0674127	1.0801123 1.0801123	0.6658133 0.6687526	2.0557835	2.0557835 2.0544619
240	20:57.9	574360	6.35303E+12	6.0023E+13	5408.83	0.0349099	0.0224358	0.0672626	1.0801123	0.6941637	2.049888	2.049888
241	26:01.1	574360	6.35303E+12	6.0023E+13	5402.81	0.0349099	0.0221931	0.0671877	1.0801123	0.6866545	2.0476064	2.0476064
242	31:04.4	574361	6.35303E+12	5.95038E+13	5407.93	0.0349099	0.024178 0.0353979	0.0678382 0.0678785	1.0801123	0.7480673	2.0674304	2.0674304
243	36:08.0 41:11.6	574361 574362	6.35303E+12 6.35303E+12	5.95038E+13 5.87448E+13	5411.14 5422.09	0.0349099	0.0353979	0.0678785	1.0801123 1.0801123	1.095211 0.7286153	2.0686576	2.0686576 2.0996263
245	46:14.8	574362	6.35303E+12	5.87448E+13	5435.74	0.0349099	0.0221814	0.0690681	1.0801123	0.6862925	2.1049121	2.1049121
246	51:17.9	574362	6.35303E+12	5.87448E+13	5435.55	0.0349099	0.0237741	0.0690657	1.0801123	0.7355707	2.1048385	2.1048385
247 248	56:21.6 01:24.7	574363 574363	6.35303E+12 6.35303E+12	5.80502E+13 5.80502E+13	5427.15 5428.1	0.0349099 0.0262015	0.032206 0.0475413	0.0697841 0.0697964	1.0801123 0.8106744	0.9964536 1.4709278	2.1267343 2.1271066	2.1267343 2.1271066
249	06:27.9	574364	6.35303E+12	5.78645E+13	5441.31	0.0262015	0.0428348	0.0701907	0.8106744	1.3253087	2.1391255	2.1391255
250	11:31.0	574364	6.35303E+12	5.78645E+13	5428.95	0.0262015	0.0240965	0.0700313	0.8106744	0.7455457	2.1342664	2.1342664
251	16:33.9	574367	6.35303E+12	5.84533E+13	5433.35	0.0262015	0.0244572	0.069382	0.8106744	0.7567058	2.1144803	2.1144803
252 253	21:38.4 26:41.8	574367 574368	6.35303E+12 6.35303E+12	5.84533E+13 5.81378E+13	5439.23 5433.99	0.0262015 0.0262015	0.022965 0.0212901	0.0694571 0.0697668	0.8106744 0.8106744	0.7105371 0.6587157	2.1167686 2.1262058	2.1167686 2.1262058
254	31:45.4	574368	6.35303E+12	5.81378E+13	5446.09	0.0262015	0.0212901	0.0699221	0.8106744	0.6492697	2.1202038	2.1202038
255	36:48.4	574369	6.35303E+12	5.7527E+13	5440.51	0.0262015	0.0204925	0.0705922	0.8106744	0.634038	2.1513595	2.1513595
256 257	41:51.9 46:55.1	574370 574370	6.35303E+12 6.35303E+12	5.73316E+13 5.73316E+13	5442.44 5449.99	0.0262015 0.0262015	0.0198587 0.0197845	0.0708579 0.0709562	0.8106744 0.8106744	0.6144282 0.6121324	2.1594579 2.1624536	2.1594579 2.1624536
258	51:58.4	574370	6.35303E+12 6.35303E+12	5.73316E+13 5.73316E+13	5449.99	0.0262015	0.0197845	0.0709562	0.8106744	0.6121324	2.1659334	2.1624536
259	57:01.5	574373	6.35303E+12	5.75391E+13	5466.97	0.0262015	0.0197032	0.0709205	0.8106744	0.609617	2.1613669	2.1613669
260	02:05.0	574373	6.35303E+12	5.75391E+13	5466.18	0.0202338	0.0193913	0.0709103	0.6260338	0.5999668	2.1610546	2.1610546
261	07:08.3 12:11.9	574373 574374	6.35303E+12	5.75391E+13 5.70787E+13	5468.2 5462.25	0.0202338 0.0202338	0.0191518 0.0195416	0.0709365 0.0714308	0.6260338 0.6260338	0.5925567 0.6046171	2.1618532 2.1769189	2.1618532 2.1769189
262 263	17:14.8	574374	6.35303E+12 6.35303E+12	5.70787E+13 5.67247E+13	5452.25	0.0202338	0.0195416	0.0714308	0.6260338	0.5963809	2.1769189	2.1769189
264	22:17.9	574376	6.35303E+12	5.68162E+13	5459.27	0.0202338	0.0212199	0.0717217	0.6260338	0.6565437	2.185782	2.185782
265	27:21.2	574376	6.35303E+12	5.68162E+13	5455.91	0.0202338	0.0193854	0.0716775	0.6260338	0.5997843	2.1844367	2.1844367
266 267	32:24.1	574377 574377	6.35303E+12	5.63276E+13 5.63276E+13	5454.55	0.0202338	0.0196209	0.0722814	0.6260338	0.6070706	2.2028394	2.2028394
268	37:27.2 42:30.2	574377	6.35303E+12 6.35303E+12	5.63276E+13 5.63276E+13	5461.19 5464.3	0.0202338	0.0218394 0.0211972	0.0723693 0.0724106	0.6260338 0.6260338	0.675711 0.6558414	2.205521 2.206777	2.205521 2.206777
269	47:33.3	574378	6.35303E+12	5.65074E+13	5471.12	0.0202338	0.0212136	0.0722702	0.6260338	0.6563488	2.2024995	2.2024995
270	52:36.4	574378	6.35303E+12	5.65074E+13	5465.8	0.0202338	0.0207927	0.0721999	0.6260338	0.6433261	2.2003578	2.2003578
271 272	57:39.3 03:12.6	574378 574383	6.35303E+12 6.35303E+12	5.65074E+13 5.72964E+13	5467.45 5476.66	0.0202338 0.0174418	0.0196864 0.0187668	0.0722217 0.0713471	0.6260338 0.5396493	0.6090972 0.5806448	2.2010221 2.1743674	2.2010221 2.1743674
273	03:12.6	574384	6.35303E+12	5.72964E+13 5.65611E+13	5475.55	0.0174418	0.0187668	0.0713471	0.5396493	0.5806448	2.2010766	2.1743674
274	13:19.1	574384	6.35303E+12	5.65611E+13	5477.51	0.0174418	0.0187832	0.0722859	0.5396493	0.5811522	2.2029789	2.2029789
275	18:22.2	574384	6.35303E+12	5.65611E+13	5475.27	0.0174418	0.0184439	0.0722564	0.5396493	0.5706543	2.202078	2.202078
276	23:25.4	574384	6.35303E+12	5.65611E+13	5485.01	0.0174418	0.0182748	0.0723849	0.5396493	0.5654223	2.2059953	2.2059953
277 278	28:28.7 33:31.7	574385 574386	6.35303E+12 6.35303E+12	5.52675E+13 5.5002E+13	5483.01 5486.59	0.0174418 0.0174418	0.0178749 0.0182033	0.0740521 0.0744582	0.5396493 0.5396493	0.5530494 0.5632101	2.2568058 2.2691808	2.2568058 2.2691808
279	38:35.5	574386	6.35303E+12	5.5002E+13	5489.7	0.0174418	0.0186322	0.0745004	0.5396493	0.5764803	2.270467	2.270467
280	43:38.3	574387	6.35303E+12	5.4816E+13	5485.01	0.0174418	0.0182313	0.0746893	0.5396493	0.5640764	2.2762247	2.2762247
281	48:41.2 53:45.0	574387 574387	6.35303E+12 6.35303E+12	5.4816E+13 5.4816E+13	5494.56 5496.86	0.0174418 0.0174418	0.0183895 0.0183358	0.0748194 0.0748507	0.5396493 0.5396493	0.5689711 0.5673097	2.2801879 2.2811424	2.2801879 2.2811424
282	58:48.0	574388	6.35303E+12 6.35303E+12	5.4816E+13 5.41076E+13	5496.86	0.0174418	0.0183358	0.0748507	0.5396493	0.5678975		
_00	_00.0	5,7500		J10/0E-13	51./1	0.01/7710	0.0103340	3.0737393	0.5550455	0.3070373		2.55004

1	A	B	C	D	E DTCi	F INAD	G	H	 	J	K	L
284	datetime b	olock_height 574388	network_diff 6.35303E+12	est_network_hashrate 5.41076E+13	BTC_price 5493.27	day_ahead_LMP 0.0165491	real_time_LMP 0.0183691	breakeven_mining_cost 0.0757811	day_ahead_LMP_rev 0.5120292	real_time_LMP_rev 0.56834	mining_rev 2.3094963	realized_rev 2.3094963
285	08:54.1	574388	6.35303E+12	5.41076E+13	5497.61	0.0165491	0.0183647	0.0758409	0.5120292	0.5682038	2.311321	2.311321
286	13:57.4	574390	6.35303E+12	5.36713E+13	5491.93	0.0165491	0.0183673	0.0763785	0.5120292	0.5682843	2.3277048	2.3277048
287 288	19:00.7	574393 574393	6.35303E+12 6.35303E+12	5.4543E+13	5502.77	0.0165491	0.0188417	0.0753062 0.0756203	0.5120292 0.5120292	0.5829622 0.6002205	2.2950255	2.2950255 2.3045972
289	24:04.5 29:07.6	574393	6.35303E+12 6.35303E+12	5.4543E+13 5.4543E+13	5525.72 5538.58	0.0165491 0.0165491	0.0193995 0.0193609	0.0757963	0.5120292	0.5990262	2.3045972	2.3045972
290	34:10.9	574393	6.35303E+12	5.4543E+13	5548.77	0.0165491	0.019547	0.0759358	0.5120292	0.6047842	2.3142106	2.3142106
291	39:14.1	574394	6.35303E+12	5.38779E+13	5544.99	0.0165491	0.0195134	0.0768207	0.5120292	0.6037446	2.3411795	2.3411795
292 293	44:17.1 49:20.1	574395 574395	6.35303E+12 6.35303E+12	5.53825E+13 5.53825E+13	5512.91 5524.53	0.0165491 0.0165491	0.0198083 0.0195319	0.0743014 0.074458	0.5120292 0.5120292	0.6128688 0.604317	2.2644017 2.2691746	2.2644017 2.2691746
294	54:23.3	574395	6.35303E+12	5.53825E+13	5525.3	0.0165491	0.01959	0.0744684	0.5120292	0.6061146	2.2691746	2.2691746
295	59:26.3	574395	6.35303E+12	5.53825E+13	5519.06	0.0165491	0.0192502	0.0743843	0.5120292	0.5956012	2.2669278	2.2669278
296	04:29.4	574395	6.35303E+12	5.53825E+13	5533.7	0.0172292	0.0192508	0.0745816	0.5330714	0.5956198	2.2729411	2.2729411
297 298	09:32.4 14:35.9	574395 574396	6.35303E+12 6.35303E+12	5.53825E+13 5.44713E+13	5530.29 5534.64	0.0172292 0.0172292	0.0191812 0.0190064	0.0745356 0.0758421	0.5330714 0.5330714	0.5934663 0.588058	2.2715405 2.3113551	2.2715405 2.3113551
298	19:39.0	574396	6.35303E+12	5.44713E+13 5.44713E+13	5544.31	0.0172292	0.0190064	0.0758421	0.5330714	0.5868297	2.3113551	2.3113551
300	24:42.5	574396	6.35303E+12	5.44713E+13	5549.76	0.0172292	0.0190067	0.0760493	0.5330714	0.5880673	2.3176694	2.3176694
301	29:46.0	574397	6.35303E+12	5.38389E+13	5535.92	0.0172292	0.0190806	0.0767506	0.5330714	0.5903538	2.3390422	2.3390422
302	34:48.9	574397 574397	6.35303E+12	5.38389E+13	5548.11	0.0172292 0.0172292	0.0187167 0.0189742	0.0769196 0.0773179	0.5330714	0.5790947 0.5870617	2.3441927 2.3563317	2.3441927 2.3563317
304	39:52.5 44:55.6	574397	6.35303E+12 6.35303E+12	5.38389E+13 5.38389E+13	5576.84 5588.49	0.0172292	0.0188554	0.0774794	0.5330714 0.5330714	0.5833861	2.3503517	2.3612541
305	49:58.8	574397	6.35303E+12	5.38389E+13	5580.14	0.0172292	0.0189482	0.0773636	0.5330714	0.5862573	2.3577261	2.3577261
306	55:01.8	574397	6.35303E+12	5.38389E+13	5586.36	0.0172292	0.0194129	0.0774499	0.5330714	0.6006351	2.3603541	2.3603541
307 308	00:05.2 05:09.1	574398 574399	6.35303E+12 6.35303E+12	5.24135E+13 5.22154E+13	5582.24 5575.01	0.0174125 0.0174125	0.0194554 0.0197929	0.0794975 0.0796957	0.5387428 0.5387428	0.6019501 0.6123923	2.422758	2.422758 2.4287994
308	10:12.1	574399 574400	6.35303E+12 6.35303E+12	5.22154E+13 5.19602E+13	5575.01	0.0174125	0.0197929	0.0796957	0.5387428	0.6123923	2.4287994	2.4287994
310	15:15.6	574400	6.35303E+12	5.19602E+13	5578.34	0.0174125	0.0198711	0.080135	0.5387428	0.6148118	2.4421865	2.4421865
311	20:18.5	574400	6.35303E+12	5.19602E+13	5579.19	0.0174125	0.0198617	0.0801472	0.5387428	0.614521	2.4425586	2.4425586
312	25:21.5	574401	6.35303E+12	5.14241E+13	5571.72	0.0174125	0.0200228 0.0199827	0.0808744	0.5387428	0.6195054	2.4647197	2.4647197 2.4640783
313 314	30:24.5 35:27.4	574401 574402	6.35303E+12 6.35303E+12	5.14241E+13 5.15991E+13	5570.27 5586.79	0.0174125 0.0174125	0.0199827	0.0808533 0.080818	0.5387428 0.5387428	0.6182647 0.642333	2.4640783	2.4640783
315	40:30.4	574403	6.35303E+12	5.16659E+13	5618.48	0.0174125	0.0207000	0.0811714	0.5387428	0.6256625	2.4737726	2.4737726
316	45:33.7	574404	6.35303E+12	5.22163E+13	5610.56	0.0174125	0.0221828	0.0802027	0.5387428	0.6863358	2.444248	2.444248
317 318	50:36.6	574405 574406	6.35303E+12	5.26766E+13	5659.03	0.0174125	0.0202739	0.0801886	0.5387428	0.6272745	2.4438195	2.4438195
319	55:39.5 00:42.4	574406	6.35303E+12 6.35303E+12	5.44332E+13 5.44179E+13	5660.39 5674.28	0.0174125 0.0182174	0.0201747 0.0190667	0.0776194 0.0778319	0.5387428 0.5636464	0.6242052 0.5899237	2.365522	2.365522 2.3719968
320	05:45.2	574408	6.35303E+12	5.43366E+13	5665.31	0.0182174	0.0196886	0.0778251	0.5636464	0.6091653	2.3717894	2.3717894
321	10:47.9	574408	6.35303E+12	5.43366E+13	5669.02	0.0182174	0.0199558	0.077876	0.5636464	0.6174325	2.3733426	2.3733426
322	15:50.8	574409	6.35303E+12	5.45039E+13	5707.81	0.0182174	0.0201714	0.0781682	0.5636464	0.6241031	2.3822461	2.3822461
323 324	20:53.8 25:56.9	574409 574410	6.35303E+12 6.35303E+12	5.45039E+13 5.4739E+13	5687.02 5681.9	0.0182174 0.0182174	0.0225138 0.0207126	0.0778835 0.0774792	0.5636464 0.5636464	0.696577 0.6408478	2.3735691 2.3612479	2.3735691 2.3612479
325	36:03.0	574410	6.35303E+12	5.4739E+13	5722.07	0.0182174	0.0216808	0.0780269	0.5636464	0.670804	2.3779415	2.3779415
326	41:06.3	574410	6.35303E+12	5.4739E+13	5722.31	0.0182174	0.0214058	0.0780302	0.5636464	0.6622955	2.3780413	2.3780413
327	46:09.6	574410	6.35303E+12	5.4739E+13	5758.38	0.0182174	0.0229584	0.0785221	0.5636464	0.7103329	2.393031	2.393031
328 329	51:12.9 01:18.1	574410 574412	6.35303E+12 6.35303E+12	5.4739E+13 5.33495E+13	5752.53 5778.34	0.0182174 0.0231716	0.0234792 0.024996	0.0784423 0.0808465	0.5636464 0.7169293	0.7264464 0.7733762	2.3905999 2.46387	2.3905999 2.46387
330	06:21.2	574412	6.35303E+12	5.33495E+13	5720.48	0.0231716	0.0224302	0.080037	0.7169293	0.6939904	2.4391986	2.4391986
331	11:24.7	574412	6.35303E+12	5.33495E+13	5706.21	0.0231716	0.0232405	0.0798373	0.7169293	0.7190611	2.4331139	2.4331139
332	16:27.6 21:30.3	574413 574413	6.35303E+12 6.35303E+12	5.25253E+13 5.25253E+13	5710.17 5738.9	0.0231716 0.0231716	0.0234349 0.0220916	0.0811462 0.0815545	0.7169293 0.7169293	0.7250758 0.6835141	2.4730049 2.4854476	2.4730049 2.4854476
334	26:33.4	574413	6.35303E+12	5.25253E+13	5729.99	0.0231716	0.0254117	0.0814279	0.7169293	0.786238	2.4815887	2.4815887
335	31:36.2	574414	6.35303E+12	5.19701E+13	5734.45	0.0231716	0.0252112	0.0823619	0.7169293	0.7800345	2.5100531	2.5100531
336	36:39.1	574414	6.35303E+12	5.19701E+13	5744.82	0.0231716	0.025471	0.0825108	0.7169293	0.7880727	2.5145922	2.5145922
337 338	41:41.9 46:44.7	574416 574418	6.35303E+12 6.35303E+12	5.19215E+13 5.19586E+13	5727.38 5734.35	0.0231716 0.0231716	0.0253676 0.02236	0.0823374 0.0823788	0.7169293 0.7169293	0.7848735 0.6918184	2.509306 2.510567	2.509306 2.510567
339	51:47.4	574420	6.35303E+12	5.25895E+13	5719.9	0.0231716	0.0361412	0.0811854	0.7169293	1.1182087	2.4741988	2.4741988
340	56:50.2	574421	6.35303E+12	5.25734E+13	5661.86	0.0231716	0.0233862	0.0803862	0.7169293	0.723569	2.4498404	2.4498404
341 342	01:53.1 06:56.0	574421 574423	6.35303E+12 6.35303E+12	5.25734E+13 5.29406E+13	5685.95 5678.18	0.0265606 0.0265606	0.0218135 0.0217023	0.0807282 0.0800587	0.821785 0.821785	0.6749097 0.6714692	2.4602639 2.4398604	2.4602639 2.4398604
343	11:59.2	574424		5.28202E+13	5698.16	0.0265606	0.0217023	0.0805235	0.821785	0.6738144	2.4590004	2.4598604
344	17:02.4	574424	6.35303E+12	5.28202E+13	5677.65	0.0265606	0.028073	0.0802337	0.821785	0.8685786	2.4451943	2.4451943
345	22:05.3	574426	6.35303E+12	5.30049E+13	5685.84	0.0265606	0.0482239	0.0800695	0.821785	1.4920475	2.4401892	2.4401892
346 347	27:09.9 32:14.0	574426 574427	6.35303E+12 6.35303E+12	5.30049E+13 5.28466E+13	5681.85 5686.85	0.0265606 0.0265606	0.2355911 0.2281308	0.0800133 0.0803235	0.821785 0.821785	7.2891886 7.058367	2.4384768 2.4479317	7.2891886 7.058367
347	37:18.6	574427	6.35303E+12 6.35303E+12	5.28466E+13 5.28466E+13	5693.47	0.0265606	0.2281308	0.0803235	0.821785	1.5097854	2.4479317	2.4507813
349	42:21.3	574428	6.35303E+12	5.2354E+13	5717.6	0.0265606	0.0277079	0.0815177	0.821785	0.8572824	2.4843261	2.4843261
350	47:24.0	574428	6.35303E+12	5.2354E+13	5722.32	0.0265606	0.0280138	0.081585	0.821785	0.866747	2.4863769	2.4863769
351 352	52:27.1 57:29.7	574428 574429	6.35303E+12 6.35303E+12	5.2354E+13 5.15634E+13	5715.88 5701.89	0.0265606 0.0265606	0.028221 0.023821	0.0814932 0.0825403	0.821785 0.821785	0.8731577 0.7370217	2.4835787 2.5154886	2.4835787 2.5154886
353	02:32.4	574429	6.35303E+12	5.15634E+13	5701.69	0.0272743	0.023821	0.0825374	0.8438668	0.6903859	2.5154004	2.5154004
354	07:35.2	574429	6.35303E+12	5.15634E+13	5712.55	0.0272743	0.0230727	0.0826946	0.8438668	0.7138693	2.5201914	2.5201914
355	12:38.1	574430	6.35303E+12	5.12815E+13	5715.02	0.0272743 0.0272743	0.0232288	0.083185 0.0830159	0.8438668 0.8438668	0.7186991	2.5351378 2.5299833	2.5351378
356 357	17:41.8 22:44.7	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5703.4 5712.82	0.0272743	0.0235449 0.0235528	0.0830159 0.083153	0.8438668	0.7284792 0.7287236	2.5299833	2.5299833 2.5341619
358	27:47.6	574430	6.35303E+12	5.12815E+13	5729.59	0.0272743	0.0236272	0.0833971	0.8438668	0.7310256	2.541601	2.541601
359	32:50.4	574430		5.12815E+13	5736.47	0.0272743	0.0244433	0.0834972	0.8438668	0.7562757	2.5446529	2.5446529
360	37:53.2	574430	6.35303E+12	5.12815E+13	5731.9	0.0272743	0.0241428	0.0834307	0.8438668	0.7469782	2.5426257	2.5426257
361 362	42:56.3 47:59.3	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5735.01 5723.33	0.0272743 0.0272743	0.0245142 0.0472294	0.083476 0.083306	0.8438668 0.8438668	0.7584693 1.4612776	2.5440052 2.5388241	2.5440052 2.5388241
363	53:02.1	574432	6.35303E+12	4.99455E+13	5721.98	0.0272743	0.0283038	0.0855142	0.8438668	0.8757196	2.6061222	2.6061222
364	58:05.1	574432	6.35303E+12	4.99455E+13	5706.12	0.0272743	0.047005	0.0852772	0.8438668	1.4543347	2.5988986	2.5988986
365	03:08.1	574433	6.35303E+12	4.98413E+13	5717.92	0.0273348	0.0264519	0.0856321	0.8457387	0.8184218	2.6097152	2.6097152
366 367	08:11.2 13:14.2	574435 574435	6.35303E+12 6.35303E+12	4.97656E+13 4.97656E+13	5722.49 5731.99	0.0273348 0.0273348	0.0235867 0.024523	0.085831 0.0859735	0.8457387 0.8457387	0.7297725 0.7587416	2.6157766 2.6201191	2.6157766 2.6201191
368	18:17.4	574437	6.35303E+12	4.98823E+13	5729.41	0.0273348	0.027012	0.0857336	0.8457387	0.8357513	2.61281	2.61281
369	23:20.3	574438	6.35303E+12	4.9928E+13	5727.98	0.0273348	0.0259483	0.0856339	0.8457387	0.8028404	2.6097702	2.6097702
370	28:23.3	574438	6.35303E+12	4.9928E+13	5745.01	0.0273348	0.0476807	0.0858885	0.8457387	1.4752409	2.6175294	2.6175294
371 372	33:26.3 38:29.1	574441 574441	6.35303E+12 6.35303E+12	5.04581E+13 5.04581E+13	5733.7 5748.11	0.0273348 0.0273348	0.0268104 0.0266035	0.0848189 0.085032	0.8457387 0.8457387	0.8295138 0.8231123	2.5849309 2.5914274	2.5849309 2.5914274
373	43:31.9	574442	6.35303E+12	5.28842E+13	5748.47	0.0273348	0.0478517	0.0811362	0.8457387	1.4805316	2.4726991	2.4726991
374	48:35.1	574442	6.35303E+12	5.28842E+13	5745.69	0.0273348	0.0342983	0.081097	0.8457387	1.0611894	2.4715033	2.4715033
375 376	53:37.9 58:40.9	574442 574443	6.35303E+12 6.35303E+12	5.28842E+13 5.28228E+13	5748.13 5739.99	0.0273348 0.0273348	0.0264623 0.0253293	0.0811314 0.0811107	0.8457387 0.8457387	0.8187436 0.7836885	2.4725529 2.4719226	2.4725529 2.4719226
376	03:44.2	574443	6.35303E+12 6.35303E+12	5.28228E+13 5.28228E+13	5735.16	0.0273348	0.0253293	0.0811107	0.8457387	0.7836885	2.4719226	2.4719226
		3, 1, 13		3.202202.13	2.33.10	2.0230 137	J.0255022	0.0010425	0.5255457	0., 500545	200 120	103042

	Δ	В	C	D	F	F	G	Н	ı	ı	K	1
1	datetime	block height	network diff	_	BTC price	day ahead LMP	_		day ahead LMP rev	real time LMP rev	mining_rev	realized rev
378	08:47.3	574443	6.35303E+12	5.28228E+13	5746.65	0.0298497	0.0244251	0.0812048	0.9235497	0.7557126	2.4747908	2.4747908
379	13:50.5	574443	6.35303E+12	5.28228E+13	5760.39	0.0298497	0.0246582	0.081399	0.9235497	0.7629247	2.4807079	2.4807079
380	18:53.5	574443	6.35303E+12	5.28228E+13	5759.7	0.0298497	0.0249722	0.0813893	0.9235497	0.7726399	2.4804107	2.4804107
381	23:57.3	574444	6.35303E+12	5.21447E+13	5763.19	0.0298497	0.0248231	0.0824975	0.9235497	0.7680267	2.5141848	2.5141848
382	29:00.1	574445	6.35303E+12	5.19166E+13	5756.99	0.0298497	0.0277305	0.0827709	0.9235497	0.8579817	2.5225189	2.5225189
383	34:03.0	574446	6.35303E+12	5.17083E+13	5752.55	0.0298497	0.0341344	0.0830402	0.9235497	1.0561183	2.5307244	2.5307244
384	44:08.1	574446	6.35303E+12	5.17083E+13	5759.01	0.0298497	0.026299	0.0831334	0.9235497	0.8136911	2.5335664	2.5335664
385	49:11.1	574447	6.35303E+12	5.14685E+13	5756.94	0.0298497	0.0264755	0.0834907	0.9235497	0.819152	2.5444543	2.5444543
386	54:14.3	574448	6.35303E+12	5.19511E+13	5733.43	0.0298497	0.0263969	0.0823773	0.9235497	0.8167201	2.5105227	2.5105227
387	59:17.3	574448	6.35303E+12	5.19511E+13	5719.45	0.0298497	0.0296594	0.0821764	0.9235497	0.9176618	2.5044012	2.5044012
388	04:20.5	574448	6.35303E+12	5.19511E+13	5694.51	0.0289776	0.0266675	0.0818181	0.8965669	0.8250925	2.4934806	2.4934806
389	09:23.7	574449	6.35303E+12	5.17328E+13	5699.65	0.0289776	0.0248567	0.0822376	0.8965669	0.7690663	2.5062642	2.5062642
390	14:27.2	574450	6.35303E+12	5.16724E+13	5715.01	0.0289776	0.0254265	0.0825556	0.8965669	0.7866959	2.5159564	2.5159564
391	19:30.0	574450	6.35303E+12	5.16724E+13	5715.01	0.0289776	0.0257899	0.0825556	0.8965669	0.7979395	2.5159564	2.5159564
392	24:33.5	574450	6.35303E+12	5.16724E+13	5711.26	0.0289776	0.0254494	0.0825014	0.8965669	0.7874044	2.5143055	2.5143055
393	29:36.5	574450	6.35303E+12	5.16724E+13	5720.49	0.0289776	0.0255463	0.0826348	0.8965669	0.7904025	2.5183689	2.5183689
394	34:39.6	574450	6.35303E+12	5.16724E+13	5725.31	0.0289776	0.0252955	0.0827044	0.8965669	0.7826428	2.5204908	2.5204908
395	39:42.4	574452	6.35303E+12	5.09821E+13	5725.01	0.0289776	0.0258846	0.0838198	0.8965669	0.8008695	2.5544843	2.5544843
396	44:46.8	574454	6.35303E+12	5.11925E+13	5714.05	0.0289776	0.0259942	0.0833155	0.8965669	0.8042605	2.5391139	2.5391139
397	49:49.8	574454	6.35303E+12	5.11925E+13	5706.05	0.0289776	0.0248507	0.0831988	0.8965669	0.7688807	2.535559	2.535559
398	54:52.5	574454	6.35303E+12	5.11925E+13	5709.99	0.0289776	0.0240952	0.0832563	0.8965669	0.7455055	2.5373098	2.5373098
399	59:55.4	574454	6.35303E+12	5.11925E+13	5714.98	0.0289776	0.0237491	0.083329	0.8965669	0.7347972	2.5395272	2.5395272
400	04:58.3	574454	6.35303E+12	5.11925E+13	5715.01	0.0314491	0.0249024	0.0833295	0.9730352	0.7704803	2.5395405	2.5395405
401	10:01.4	574454	6.35303E+12	5.11925E+13	5705.02	0.0314491	0.0238843	0.0831838	0.9730352	0.7389802	2.5351013	2.5351013

Bearbox v Lancium
Trial Exhibit

TX920-2

2	Α	В										
2	latetime		C network diff	D D	E BTC price	F day_ahead_LMP	G real time LMP	H brookeyen mining cost	day ahoad LMD vo::	real time LMP rev	K mining rov	L realized rev
	20:03.1	block_height r 574204	6.35303E+12	est_network_hashrate 5.38327E+13	BTC_price 5320.02	0.0062116	0.0053108	breakeven_mining_cost 0.0737658	day_ahead_LMP_rev 0.1921869	0.1643162	mining_rev 2.2480786	2.2480786
3	25:07.0	574204	6.35303E+12	5.38327E+13	5320.01	0.0062116	0.0063954	0.0737656	0.1921869	0.1978737	2.2480744	2.2480744
4	30:10.6	574204	6.35303E+12	5.38327E+13	5319.98	0.0062116	0.0064769	0.0737652	0.1921869	0.2003953	2.2480617	2.2480617
6	35:13.6	574205 574205	6.35303E+12 6.35303E+12	5.30839E+13	5325.25	0.0062116 0.0062116	0.0050178	0.0748799 0.0748333	0.1921869	0.1552507	2.2820313 2.2806129	2.2820313 2.2806129
7	40:16.4 45:19.2	574205	6.35303E+12	5.30839E+13 5.44532E+13	5321.94 5326.51	0.0062116	0.0038182 0.0054266	0.0730143	0.1921869 0.1921869	0.1181351 0.167899	2.2251767	2.2806129
8	50:22.3	574206	6.35303E+12	5.44532E+13	5326.54	0.0062116	0.0076717	0.0730147	0.1921869	0.2373624	2.2251893	2.2251893
9	55:26.0	574207	6.35303E+12	5.39845E+13	5328.24	0.0062116	0.0011776	0.0736721	0.1921869	0.0364349	2.2452223	2.2452223
10 11	00:29.0 05:31.8	574207 574208	6.35303E+12 6.35303E+12	5.39845E+13 5.34662E+13	5325.77 5325.77	0.0011643 0.0011643	0.0027475 -0.0033173	0.0736379 0.0743518	0.0360234 0.0360234	0.0850077 -0.1026373	2.2441815 2.2659373	2.2441815 2.2659373
12	10:34.6	574208	6.35303E+12	5.34662E+13	5325.77	0.0011643	-0.0033173	0.0743412	0.0360234	-0.1026373	2.2656139	2.2656139
13	15:37.4	574209	6.35303E+12	5.33477E+13	5321.01	0.0011643	0.0010002	0.0744503	0.0360234	0.0309462	2.2689395	2.2689395
14	20:40.3	574209	6.35303E+12	5.33477E+13	5321.01	0.0011643	0.001291	0.0744503	0.0360234	0.0399435	2.2689395	2.2689395
15	25:43.5	574210	6.35303E+12	5.36221E+13 5.54528E+13	5326.26	0.0011643	-0.0191129	0.0741425	0.0360234 0.0360234	-0.5913531	2.2595592 2.1855639	2.2595592
16 17	30:46.5 35:49.4	574212 574213	6.35303E+12 6.35303E+12	5.54528E+13 5.51131E+13	5327.73 5321.02	0.0011643 0.0011643	-0.0318014 -0.0309552	0.0717145 0.0720657	0.0360234	-0.9839353 -0.9577539	2.1855639	2.1855639 2.1962672
18	40:52.8	574215	6.35303E+12	5.58834E+13	5323.1	0.0011643	-0.0303368	0.0711001	0.0360234	-0.9386206	2.1668382	2.1668382
19	45:56.2	574215	6.35303E+12	5.58834E+13	5323.1	0.0011643	-0.0268603	0.0711001	0.0360234	-0.8310577	2.1668382	2.1668382
20	50:59.1 56:02.0	574215 574215	6.35303E+12 6.35303E+12	5.58834E+13 5.58834E+13	5326.69 5326.69	0.0011643 0.0011643	-0.0314096 -0.0323434	0.071148 0.071148	0.0360234 0.0360234	-0.971813 -1.0007048	2.1682995 2.1682995	2.1682995 2.1682995
22	01:05.0	574215	6.35303E+12	5.54406E+13	5328.81	0.0011643	-0.0323434	0.0717448	0.0164879	-0.9710767	2.1864882	2.1864882
23	06:08.0	574216	6.35303E+12	5.54406E+13	5330.34	0.0005329	-0.0029529	0.0717654	0.0164879	-0.0913627	2.187116	2.187116
24	11:11.1	574219	6.35303E+12	5.59245E+13	5326.73	0.0005329	-0.0191457	0.0710963	0.0164879	-0.592368	2.1667245	2.1667245
25 26	16:14.0 21:16.9	574220 574220	6.35303E+12 6.35303E+12	5.59914E+13 5.59914E+13	5332.99 5343.69	0.0005329 0.0005329	-0.017496 -0.0277353	0.0710948 0.0712374	0.0164879 0.0164879	-0.5413262 -0.8581302	2.1666774 2.1710246	2.1666774 2.1710246
26	26:20.3	574220	6.35303E+12	5.59914E+13 5.59876E+13	5343.69	0.0005329	-0.0277353	0.0712374	0.0164879	-0.8581302 -0.9375903	2.1/10246	2.1710246
28	31:23.1	574226	6.35303E+12	5.60441E+13	5333.74	0.0005329	-0.0262667	0.0710379	0.0164879	-0.8126917	2.1649441	2.1649441
29	36:26.0	574227	6.35303E+12	5.56725E+13	5331.57	0.0005329	-0.0192771	0.071483	0.0164879	-0.5964335	2.1785089	2.1785089
30	41:28.9	574227	6.35303E+12	5.56725E+13	5332.07	0.0005329	-0.0198472	0.0714897	0.0164879 0.0164879	-0.6140724	2.1787132	2.1787132 2.1833549
31	46:31.8 51:34.6	574227 574228	6.35303E+12 6.35303E+12	5.56725E+13 5.52451E+13	5343.43 5343.99	0.0005329 0.0005329	-0.0195084 -0.0293344	0.071642 0.0722038	0.0164879	-0.6035899 -0.9076063	2.1833549 2.2004762	2.1833549
33	56:37.6	574229	6.35303E+12	5.5892E+13	5328.81	0.0005329	-0.0236519	0.0711654	0.0164879	-0.7317898	2.1688293	2.1688293
34	01:40.7	574229	6.35303E+12	5.5892E+13	5339.09	0.0004335	-0.0187133	0.0713027	0.0134125	-0.5789895	2.1730133	2.1730133
35 36	06:43.9 11:46.8	574229 574230	6.35303E+12 6.35303E+12	5.5892E+13 5.53347E+13	5341.16 5346.19	0.0004335 0.0004335	-0.0309148 -0.0303946	0.0713303 0.0721165	0.0134125 0.0134125	-0.9565039 -0.9404089	2.1738558 2.1978165	2.1738558 2.1978165
37	16:50.5	574230	6.35303E+12	5.53347E+13	5351.52	0.0004335	-0.0303940	0.0721884	0.0134125	-0.9377233	2.2000077	2.2000077
38	21:53.4	574231	6.35303E+12	5.49411E+13	5346.91	0.0004335	-0.0281596	0.0726431	0.0134125	-0.871258	2.2138627	2.2138627
39	26:56.3	574231	6.35303E+12	5.49411E+13	5345.36	0.0004335	-0.0283143	0.072622	0.0134125	-0.8760444	2.2132209	2.2132209
40	31:59.3 37:02.5	574231 574232	6.35303E+12 6.35303E+12	5.49411E+13 5.47061E+13	5345.35 5343.98	0.0004335 0.0004335	-0.0270691 -0.0275323	0.0726219 0.0729151	0.0134125 0.0134125	-0.837518 -0.8518494	2.2132168	2.2132168 2.2221538
42	42:05.7	574232	6.35303E+12	5.47061E+13	5350.73	0.0004335	-0.0275121	0.0730072	0.0134125	-0.8512244	2.2221558	
43	47:08.6	574232	6.35303E+12	5.47061E+13	5364.94	0.0004335	-0.0290109	0.0732011	0.0134125	-0.8975972	2.2308695	2.2308695
44	52:11.5	574232	6.35303E+12	5.47061E+13	5358.68	0.0004335	-0.0282604	0.0731157	0.0134125	-0.8743768	2.2282664	2.2282664
45 46	57:14.5 02:17.5	574232 574233	6.35303E+12 6.35303E+12	5.47061E+13 5.35475E+13	5363.38 5374.99	0.0004335 0.0030406	-0.0265346 -0.02651	0.0731798 0.074925	0.0134125 0.0940762	-0.8209805 -0.8202194	2.2302208 2.283406	2.2302208 2.283406
47	07:20.4	574233	6.35303E+12	5.35475E+13	5371.65	0.0030406	-0.0027186	0.0748784	0.0940762	-0.0841135	2.2819871	2.2819871
48	12:23.4	574233	6.35303E+12	5.35475E+13	5364.6	0.0030406	-0.0006889	0.0747801	0.0940762	-0.0213146	2.2789921	2.2789921
49	17:26.7	574233	6.35303E+12	5.35475E+13	5366.68	0.0030406	-0.0182862	0.0748091	0.0940762	-0.565775	2.2798757	2.2798757
50 51	22:29.5 27:32.4	574234 574234	6.35303E+12 6.35303E+12	5.31615E+13 5.31615E+13	5358.76 5358.18	0.0030406 0.0030406	-0.0018507 -0.0146632	0.0752411 0.075233	0.0940762 0.0940762	-0.0572607 -0.4536794	2.2930408	2.2930408 2.2927926
52	32:35.2	574234	6.35303E+12	5.31615E+13	5349.69	0.0030406	-0.0031882	0.0751138	0.0940762	-0.0986429	2.2891597	2.2891597
53	37:38.0	574235	6.35303E+12	5.26774E+13	5347.97	0.0030406	-0.0160738	0.0757796	0.0940762	-0.4973234	2.3094528	2.3094528
54 55	42:41.4 47:44.2	574236 574237	6.35303E+12 6.35303E+12	5.29706E+13 5.26741E+13	5347.88 5352.24	0.0030406 0.0030406	-0.0316489 -0.0302898	0.075359 0.075845	0.0940762 0.0940762	-0.979217 -0.9371664	2.2966332	2.2966332 2.3114455
56	52:47.1	574237	6.35303E+12	5.26741E+13 5.2719E+13	5352.24	0.0030406	-0.0302898	0.075845	0.0940762	-0.1633261	2.3114455	2.3114455
57	57:50.1	574238	6.35303E+12	5.2719E+13	5357.76	0.0030406	-0.0014966	0.0758585	0.0940762	-0.0463048	2.3118566	2.3118566
58	02:52.9	574239	6.35303E+12	5.28168E+13	5351.07	0.0126546	-0.0319016	0.0756235	0.3915333	-0.9870355	2.3046947	2.3046947
59 60	07:55.6 12:58.4	574240 574243	6.35303E+12 6.35303E+12	5.25658E+13 5.35108E+13	5350.11 5352.35	0.0126546 0.0126546	-0.0306567 0.0001377	0.075971 0.0746606	0.3915333 0.3915333	-0.9485183 0.0042604	2.3152833 2.2753498	2.3152833 2.2753498
61	18:01.2	574243	6.35303E+12	5.35108E+13	5353.74	0.0126546	0.0004942	0.07468	0.3915333	0.0152905	2.2759407	2.2759407
62	23:04.0	574245	6.35303E+12	5.38531E+13	5358.7	0.0126546	0.0010492	0.074274	0.3915333	0.0324622		
63	28:07.3	574246	6.35303E+12	5.41667E+13	5358.74	0.0126546	-0.0032429	0.0738446	0.3915333	-0.1003353	2.2504797	
64 65	33:10.6 38:13.3	574246 574246	6.35303E+12 6.35303E+12	5.41667E+13 5.41667E+13	5361.99 5364.93	0.0126546 0.0126546	-0.0011916 0.0049583	0.0738894 0.0739299	0.3915333 0.3915333	-0.0368681 0.1534098	2.2518446 2.2530793	
66	43:16.3	574247	6.35303E+12	5.37144E+13	5365.93	0.0126546	-0.015444	0.0745663	0.3915333	-0.4778374	2.2724742	2.2724742
67	48:19.5	574249	6.35303E+12	5.43573E+13	5360.33	0.0126546	-0.0011564	0.0736074	0.3915333	-0.035779	2.2432526	
68 69	53:23.3 58:26.4	574251 574252	6.35303E+12 6.35303E+12	5.52479E+13 5.50584E+13	5359.19 5358.28	0.0126546 0.0126546	0.0020084 0.0019878	0.0724055 0.0726424	0.3915333 0.3915333	0.0621399 0.0615025	2.2066234	2.2066234 2.2138427
70	03:29.4	574252	6.35303E+12	5.50584E+13 5.50584E+13	5358.28	0.0126546	0.0019878	0.0726424	0.3915333	0.0615025	2.2138427	2.2138427
71	08:33.3	574253	6.35303E+12	5.55506E+13	5362.51	0.017578	0.1607356	0.0720555	0.5438633	4.9731595	2.195957	4.9731595
72	13:36.3	574254	6.35303E+12	5.55733E+13	5360.24	0.017578	0.0139422	0.0719957	0.5438633	0.4313717	2.1941337	2.1941337
73 74	18:39.2 23:42.2	574255 574257	6.35303E+12 6.35303E+12	5.5978E+13 5.59531E+13	5358.19 5367.35	0.017578 0.017578	0.0102406 0.0108684	0.0714478 0.0716018	0.5438633 0.5438633	0.3168442 0.3362683	2.1774367 2.1821286	2.1774367 2.1821286
75	28:45.1	574257	6.35303E+12	5.59531E+13 5.59531E+13	5368.93	0.017578	0.0108684	0.0716018	0.5438633	0.3362683	2.1821286	
76	33:48.1	574257	6.35303E+12	5.59531E+13	5368.01	0.017578	0.0070868	0.0716106	0.5438633	0.2192656	2.182397	2.182397
77	38:50.8	574258	6.35303E+12	5.61961E+13	5368.01	0.017578	0.0070146	0.071301	0.5438633	0.2170317	2.1729618	
78 79	43:53.8 48:56.8	574258 574258	6.35303E+12 6.35303E+12	5.61961E+13 5.61961E+13	5363.48	0.017578	0.0081289	0.0712408	0.5438633	0.2515082	2.1711281 2.1711281	2.1711281 2.1711281
80	48:56.8 54:03.4	574258	6.35303E+12	5.61961E+13 5.61961E+13	5363.48 5369.24	0.017578 0.017578	0.0078774 0.0081243	0.0712408 0.0713173	0.5438633 0.5438633	0.2437268 0.2513658	2.1711281	2.1711281
81	59:06.3	574258	6.35303E+12	5.61961E+13	5368.9	0.017578	0.0096472	0.0713128	0.5438633	0.2984844	2.1733221	2.1733221
82	04:09.1	574258	6.35303E+12	5.61961E+13	5360.85	0.0179993	0.0101763	0.0712059	0.5568983	0.3148547	2.1700634	
83 84	09:12.1 14:15.0	574258 574260	6.35303E+12 6.35303E+12	5.61961E+13 5.46276E+13	5360.96 5364.69	0.0179993 0.0179993	0.0142381 0.0117745	0.0712073 0.0733029	0.5568983 0.5568983	0.4405268 0.364303	2.170108 2.2339708	2.170108 2.2339708
85	19:18.4	574260	6.35303E+12	5.46276E+13	5368.72	0.0179993	0.0117745	0.0733579	0.5568983	0.2839735	2.2356489	
86	24:21.3	574260	6.35303E+12	5.46276E+13	5366.48	0.0179993	0.008879	0.0733273	0.5568983	0.2747163	2.2347162	2.2347162
87	29:24.2	574260	6.35303E+12	5.46276E+13	5367.76	0.0179993	0.0077838	0.0733448	0.5568983	0.2408308	2.2352492	
88	34:27.1 39:30.1	574261 574261	6.35303E+12 6.35303E+12	5.36607E+13 5.36607E+13	5366.92 5366.01	0.0179993 0.0179993	0.0086752 0.0080915	0.0746547 0.074642	0.5568983 0.5568983	0.2684107 0.250351	2.2751678 2.2747821	2.2751678 2.2747821
90	44:33.0	574261	6.35303E+12	5.36607E+13	5364.41	0.0179993	0.0080915	0.074642	0.5568983	0.2802514	2.2741038	
91	49:35.8	574261	6.35303E+12	5.36607E+13	5364.3	0.0179993	0.0089835	0.0746182	0.5568983	0.2779495	2.2740572	2.2740572
92	54:38.7	574261	6.35303E+12	5.36607E+13	5377.85	0.0179993	0.0111079	0.0748067	0.5568983	0.3436784	2.2798013	2.2798013
93	59:41.4 04:44.3	574264 574267	6.35303E+12 6.35303E+12	5.43564E+13 5.54387E+13	5373.51 5366.58	0.0179993 0.0197454	0.0091005 0.0086523	0.0737896 0.0722558	0.5568983 0.6109227	0.2815695 0.2677022	2.2488057 2.2020604	2.2488057 2.2020604
94		574268	6.35303E+12	5.60115E+13	5357.31	0.0197454	0.008352	0.0713933		0.2584109	2.1757765	

1	Α	B	C	D	E DTCi	F INAD	G	H	 	J	K	L
96	datetime b	olock_height 574269	network_diff 6.35303E+12	est_network_hashrate 5.58958E+13	BTC_price 5342.94	day_ahead_LMP 0.0197454	real_time_LMP 0.0091438	breakeven_mining_cost 0.0713492	day_ahead_LMP_rev 0.6109227	real_time_LMP_rev 0.2829092	mining_rev 2.1744317	realized_rev 2.1744317
97	19:53.4	574270	6.35303E+12	5.6144E+13	5354.22	0.0197454	0.0085778	0.0711837	0.6109227	0.2653971	2.1693883	2.1693883
98	24:56.4	574271	6.35303E+12	5.6095E+13	5356.83	0.0197454	0.0083666	0.0712807	0.6109227	0.2588626	2.1723438	2.1723438
99 100	29:59.3 35:02.8	574271 574272	6.35303E+12 6.35303E+12	5.6095E+13 5.54087E+13	5351.83 5355.01	0.0197454 0.0197454	0.0082673 0.0084139	0.0712142 0.0721391	0.6109227 0.6109227	0.2557903 0.2603261	2.1703161 2.1985034	2.1703161 2.1985034
101	40:06.4	574272	6.35303E+12	5.53104E+13	5355.01	0.0197454	0.0084139	0.0721391	0.6109227	0.2733301	2.1985034	2.1985034
102	45:09.3	574274	6.35303E+12	5.53441E+13	5354.54	0.0197454	0.0108837	0.072217	0.6109227	0.3367417	2.2008772	2.2008772
103	50:12.2	574274	6.35303E+12	5.53441E+13	5352.64	0.0197454	0.0122486	0.0721913	0.6109227	0.3789717	2.2000962	2.2000962
104 105	55:15.6 00:19.1	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5355.99 5375.12	0.0197454 0.0222325	0.0149968 0.0101231	0.0722365 0.0724945	0.6109227 0.6878735	0.464001 0.3132087	2.2014732	2.2014732 2.2093362
106	05:21.9	574274	6.35303E+12	5.53441E+13	5373.12	0.0222325	0.0092988	0.0724475	0.6878735	0.2877049	2.2093302	2.2033302
107	10:25.1	574274	6.35303E+12	5.53441E+13	5367.35	0.0222325	0.0159435	0.0723897	0.6878735	0.4932919	2.2061425	2.2061425
108	15:27.9	574274	6.35303E+12	5.53441E+13	5362.88	0.0222325	0.0163429	0.0723295	0.6878735	0.5056493	2.2043052	2.2043052
109	20:30.7 25:33.4	574275 574275	6.35303E+12 6.35303E+12	5.36343E+13 5.36343E+13	5367 5371.56	0.0222325	0.0162985 0.0160846	0.0746925 0.0747559	0.6878735 0.6878735	0.5042756 0.4976575	2.2763203	2.2763203 2.2782544
111	30:36.1	574276	6.35303E+12	5.309E+13	5370.52	0.0222325	0.0202582	0.0755079	0.6878735	0.6267887	2.3011697	2.3011697
112	35:39.0	574278	6.35303E+12	5.49235E+13	5373.23	0.0222325	0.0194913	0.0730239	0.6878735	0.6030608	2.2254696	2.2254696
113	40:41.9	574281	6.35303E+12	5.67946E+13	5385.74	0.0222325	0.0175595	0.0707827	0.6878735	0.5432909	2.1571652	2.1571652
114 115	45:45.1 50:48.4	574281 574281	6.35303E+12 6.35303E+12	5.67946E+13 5.67946E+13	5380.67 5377.85	0.0222325 0.0222325	0.0174214 0.0137409	0.070716 0.070679	0.6878735 0.6878735	0.5390181 0.4251434	2.1551345 2.154005	2.1551345 2.154005
116	55:51.4	574282	6.35303E+12	5.6096E+13	5376.85	0.0222325	0.0182958	0.0715459	0.6878735	0.5660721	2.1804251	2.1804251
117	00:54.6	574282	6.35303E+12	5.6096E+13	5379.99	0.0242054	0.0181581	0.0715877	0.7489151	0.5618116	2.1816984	2.1816984
118	05:57.8	574283	6.35303E+12	5.56063E+13	5400.03	0.0242054	0.0202376	0.0724871	0.7489151	0.6261513	2.2091081	2.2091081
119 120	11:00.8 16:04.4	574283 574283	6.35303E+12 6.35303E+12	5.56063E+13 5.56063E+13	5401.02 5410.51	0.0242054	0.0201139 0.0214443	0.0725003 0.0726277	0.7489151 0.7489151	0.6223241 0.6634866	2.2095131 2.2133954	2.2095131 2.2133954
121	21:08.0	574284	6.35303E+12	5.64188E+13	5401.01	0.0242054	0.0214443	0.0726277	0.7489151	0.6507641	2.2133934	2.2133934
122	26:11.4	574284	6.35303E+12	5.64188E+13	5401.31	0.0242054	0.0205184	0.0714601	0.7489151	0.6348393	2.1778109	2.1778109
123	31:14.5	574285	6.35303E+12	5.57835E+13	5409.35	0.0242054	0.0209267	0.0723816	0.7489151	0.6474721	2.2058933	2.2058933
124 125	36:17.4 41:20.3	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5396.6 5405.56	0.0242054 0.0242054	0.0200056 0.0208363	0.072211 0.0723309	0.7489151 0.7489151	0.6189733 0.6446751	2.2006939 2.2043478	2.2006939 2.2043478
126	46:23.1	574285	6.35303E+12	5.57835E+13 5.57835E+13	5405.56	0.0242054	0.0208363	0.0723309	0.7489151	0.6361573	2.2043478	2.2043478
127	51:26.0	574285	6.35303E+12	5.57835E+13	5400.14	0.0242054	0.0208137	0.0722583	0.7489151	0.6439759	2.2021375	2.2021375
128	56:29.0	574285	6.35303E+12	5.57835E+13	5401.59	0.0242054	0.020787	0.0722777	0.7489151	0.6431498	2.2027288	2.2027288
129 130	01:32.2 06:35.5	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5405.56 5409.65	0.0252561 0.0252561	0.020855 0.0210312	0.0723309 0.0723856	0.7814237 0.7814237	0.6452537 0.6507053	2.2043478	2.2043478 2.2060156
131	11:38.4	574286	6.35303E+12	5.36818E+13	5410.84	0.0252561	0.0209883	0.075236	0.7814237	0.649378	2.2928844	2.2928844
132	16:41.6	574287	6.35303E+12	5.50908E+13	5403.01	0.0252561	0.0209925	0.0732057	0.7814237	0.649508	2.2310097	2.2310097
133	21:44.7	574288	6.35303E+12	5.6446E+13	5380.86	0.0252561	0.0210373	0.0711552	0.7814237	0.6508941	2.1685188	2.1685188
134 135	26:47.7 31:50.7	574288 574289	6.35303E+12 6.35303E+12	5.6446E+13 5.61643E+13	5384.99 5388.52	0.0252561 0.0252561	0.0210425 0.022109	0.0712098 0.071614	0.7814237 0.7814237	0.651055 0.6840525	2.1701832 2.1824996	2.1701832 2.1824996
136	36:53.9	574289	6.35303E+12	5.61643E+13	5385.01	0.0252561	0.0221868	0.0715673	0.7814237	0.6864596	2.1810779	2.1810779
137	41:57.0	574289	6.35303E+12	5.61643E+13	5382.53	0.0252561	0.0216043	0.0715343	0.7814237	0.668437	2.1800735	2.1800735
138	47:00.1	574289	6.35303E+12	5.61643E+13	5379.16	0.0252561	0.0221915	0.0714896	0.7814237	0.686605	2.1787085	2.1787085
139 140	52:03.4 57:06.3	574292 574293	6.35303E+12 6.35303E+12	5.59818E+13 5.63654E+13	5379.99 5381.68	0.0252561 0.0252561	0.0222715 0.0222386	0.0717336 0.0712679	0.7814237 0.7814237	0.6890802 0.6880623	2.1861462 2.1719525	2.1861462 2.1719525
141	02:09.5	574294	6.35303E+12	5.66874E+13	5378.04	0.0264225	0.0216911	0.0708151	0.8175122	0.6711226	2.1581537	2.1581537
142	07:12.4	574295	6.35303E+12	5.71185E+13	5388.44	0.0264225	0.0218905	0.0704165	0.8175122	0.6772921	2.1460054	2.1460054
143 144	12:15.4 17:18.3	574296 574298	6.35303E+12 6.35303E+12	5.69506E+13 5.77593E+13	5391.26 5388.44	0.0264225	0.0220556 0.0244837	0.070661 0.0696352	0.8175122 0.8175122	0.6824003 0.7575257	2.1534583	2.1534583 2.1221966
144	22:21.3	574298	6.35303E+12 6.35303E+12	5.77593E+13 5.77593E+13	5388.44	0.0264225	0.0244837	0.0696352	0.8175122	0.7575257	2.1221966	2.1221966
146	27:24.6	574298	6.35303E+12	5.77593E+13	5397.27	0.0264225	0.0261908	0.0697494	0.8175122	0.8103434	2.1256743	2.1256743
147	32:27.7	574300	6.35303E+12	5.74492E+13	5392.2	0.0264225	0.0269438	0.07006	0.8175122	0.8336412	2.1351406	2.1351406
148 149	37:31.8 42:35.9	574301 574301	6.35303E+12 6.35303E+12	5.7613E+13 5.7613E+13	5391.27 5391.55	0.0264225 0.0264225	0.0860346 0.2246863	0.0698488 0.0698524	0.8175122 0.8175122	2.6619105 6.9517941	2.1287047	2.6619105 6.9517941
150	47:40.3	574301	6.35303E+12 6.35303E+12	5.7613E+13 5.77583E+13	5391.55	0.0264225	0.2246863	0.0698524	0.8175122	4.9416904	2.1258153	4.9416904
151	52:44.3	574302	6.35303E+12	5.77583E+13	5396.44	0.0264225	0.1817049	0.0697399	0.8175122	5.6219496	2.1253849	5.6219496
152	57:48.1	574305	6.35303E+12	5.8471E+13	5390.94	0.0264225	0.1794976	0.0688196	0.8175122	5.5536557	2.097339	5.5536557
153 154	02:52.0 07:55.1	574305 574305	6.35303E+12 6.35303E+12	5.8471E+13 5.8471E+13	5391.58 5393.02	0.0287826 0.0287826	0.2238323 0.0385992	0.0688278 0.0688461	0.8905336 0.8905336	6.9253714 1.1942592	2.097588	6.9253714 2.0981483
155	12:58.1	574306		5.85526E+13	5393.03	0.0287826	0.0287708	0.0687504	0.8905336	0.8901686	2.0952297	2.0952297
156	18:01.0	574309	6.35303E+12	6.00748E+13	5395.99	0.0287826	0.0257429	0.0670451	0.8905336	0.7964853	2.0432598	2.0432598
157	23:03.8	574309	6.35303E+12	6.00748E+13	5395.98	0.0287826	0.02657	0.067045	0.8905336	0.8220758	2.043256	2.043256
158 159	28:06.6 33:09.8	574310 574311	6.35303E+12 6.35303E+12	6.02983E+13 6.01255E+13	5397.49 5398.95	0.0287826 0.0287826	0.0264104 0.0307645	0.0668152 0.0670253	0.8905336 0.8905336	0.8171378 0.9518536	2.0362532	2.0362532 2.0426553
160	38:13.1	574312	6.35303E+12	5.99055E+13	5397.51	0.0287826	0.0307643	0.06702535	0.8905336	0.9517082	2.0426333	2.0426333
161	43:15.9	574312	6.35303E+12	5.99055E+13	5396.26	0.0287826	0.0308105	0.0672379	0.8905336	0.9532769	2.0491354	2.0491354
162 163	48:18.6 53:21.7	574314 574315	6.35303E+12 6.35303E+12	5.98595E+13 5.97623E+13	5395.6 5391.83	0.0287826 0.0287826	0.0265074 0.029322	0.0672813 0.0673437	0.8905336 0.8905336	0.820139 0.9072227	2.0504592	2.0504592 2.0523603
164	58:24.3	574315 574315	6.35303E+12 6.35303E+12	5.97623E+13 5.97623E+13	5391.83	0.0287826	0.029322	0.0673437	0.8905336	0.9072227	2.0523603	2.0523603
165	03:28.3	574317	6.35303E+12	6.04051E+13	5387.74	0.0305043	0.2178286	0.0665766	0.943803	6.7396169	2.0289816	6.7396169
166	08:31.2	574317	6.35303E+12	6.04051E+13	5389.07	0.0305043	0.0280361	0.066593	0.943803	0.8674369	2.0294825	2.0294825
167 168	13:35.6 18:38.5	574320 574320	6.35303E+12 6.35303E+12	6.21737E+13 6.21737E+13	5394.18 5398.38	0.0305043 0.0305043	0.231619 0.0502744	0.06476 0.0648105	0.943803 0.943803	7.1662919 1.5554899	1.9736205 1.9751572	7.1662919 1.9751572
168	18:38.5 23:41.4	574320 574320		6.21737E+13 6.21737E+13	5398.38	0.0305043	0.0502744	0.0648105	0.943803	1.5554899	1.9751572	1.9751572
170	28:44.2	574320	6.35303E+12	6.21737E+13	5406.31	0.0305043	0.0313252	0.0649057	0.943803	0.9692017	1.9780586	1.9780586
171	33:47.2	574321	6.35303E+12	6.17749E+13	5402.68	0.0305043	0.0288967	0.0652808	0.943803	0.8940639	1.989492	1.989492
172 173	38:49.7	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5407.64 5407.6	0.0305043 0.0305043	0.0287713	0.0653408	0.943803 0.943803	0.890184	1.9913185 1.9913038	1.9913185 1.9913038
174	43:52.5 48:55.3	574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5407.6	0.0305043	0.0282878 0.0284715	0.0653403 0.065363	0.943803	0.8752245 0.8809082	1.9913038	1.9913038
175	53:58.0	574321	6.35303E+12	6.17749E+13	5414.01	0.0305043	0.0284908	0.0654177	0.943803	0.8815054	1.9936642	1.9936642
176	59:00.7	574321	6.35303E+12	6.17749E+13	5398.73	0.0305043	0.0273469	0.0652331	0.943803	0.8461131	1.9880375	1.9880375
177 178	04:04.0 09:06.9	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5392.99 5391.48	0.0297972 0.0297972	0.0273754 0.0274988	0.0651637 0.0651455	0.9219254 0.9219254	0.8469949 0.8508129	1.9859238	1.9859238 1.9853677
179	14:10.1	574321	6.35303E+12	6.17749E+13	5391.48	0.0297972	0.0274988	0.0651455	0.9219254	0.8430779		1.9853677
180	19:13.1	574321	6.35303E+12	6.17749E+13	5394.88	0.0297972	0.0273184	0.0651866	0.9219254	0.8452313	1.9866197	1.9866197
181	24:16.0	574321	6.35303E+12	6.17749E+13	5394.01	0.0297972	0.0274422	0.0651761	0.9219254	0.8490617	1.9862994	1.9862994
182 183	29:18.8 34:22.0	574321	6.35303E+12	6.17749E+13	5393.45	0.0297972	0.0273455 0.0272903	0.0651693	0.9219254 0.9219254	0.8460698	1.9860931	1.9860931 2.0855052
183	34:22.0	574322 574322	6.35303E+12 6.35303E+12	5.8824E+13 5.8824E+13	5392.88 5394.38	0.0297972 0.0297972	0.0272903	0.0684313 0.0684503	0.9219254	0.8443619 0.8226544	2.0855052 2.0860853	2.0855052
185	44:28.3	574323	6.35303E+12	5.85421E+13	5392.66	0.0297972	0.027943	0.068758	0.9219254	0.8645564	2.0954606	2.0954606
186	49:31.3	574323	6.35303E+12	5.85421E+13	5399.52	0.0297972	0.0271998	0.0688454	0.9219254	0.8415618	2.0981263	2.0981263
187 188	54:34.1 59:37.0	574324 574326	6.35303E+12 6.35303E+12	5.81584E+13 5.98016E+13	5403.19 5404.52	0.0297972 0.0297972	0.0281051 0.0309303	0.0693467 0.0674579	0.9219254 0.9219254	0.8695718 0.9569835	2.1134037 2.055839	2.1134037 2.055839
188	04:39.8	574326		5.98016E+13 5.98016E+13	5404.52	0.0297972	0.0309303	0.0674579	0.9219254	1.1333384	2.055839	2.055839
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262 43:47.4 574377 6.35303E+12 5.63276E+13 5465.31 0.0211425 0.0216094 0.0724239 0.654149 0.6685948 2.2071849 2.2071849 263 53:53.8 574378 6.35303E+12 5.65074E+13 5464.7 0.0211425 0.0200281 0.0708824 0.654149 0.6590215 2.2011227 2.201122 265 543.15 574384 6.35303E+12 5.65611E+13 5475.86 0.0182998 0.0190671 0.0722642 0.5661958 0.5899361 2.2023153 2.202315 266 0.93.4.6 574384 6.35303E+12 5.65611E+13 5478.94 0.0182998 0.019071 0.0722322 0.5661958 0.5885438 2.201342 2.20134 267 19-40.1 574384 6.35303E+12 5.65611E+13 5478.95 0.0182998 0.0187179 0.0723049 0.5661958 0.5735781 2.2063372 268 24-43.3 574384 6.35303E+12 5.65611E+13 5478.96 0.0182998 0.018739 0.0723961 0.5661958													
263 53:53.8 574378 6.35303E+12 5.65074E+13 546.77 0.0211707 0.072225 0.654149 0.6550215 2.2011227 2.2011227 2.201122 2.2011227 2.201542 2.201542 2.201542 2.201542 2.201542 2.201542 2.201542 2.201542 2.201542 2.201542 2.201342	262												2.2071849
265 04:31.5 574384 6.35303E+12 5.65611E+13 5475.86 0.0182998 0.0190671 0.0722642 0.5661958 0.5899361 2.2023153 2.203528 0.0182988 0.0182798 0.0182938 0.0182936 0.0744757 0.5661958 0.572325													2.2011227
266 09:34.6 574384 6.35303E+12 5.65611E+13 5473.44 0.0182998 0.0190221 0.0722322 0.5661958 0.5885438 2.201342 2.201342 267 19:40.1 5743844 6.35303E+12 5.65611E+13 548.56 0.0182998 0.0187179 0.0723049 0.5661958 0.5735781 2.2063372 2.2060372 2.2060372 2.2060372 2.2060372 2.2060372 2.2060372 2.2060372 2.2060372 <td< th=""><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	-												
267 19:40.1 574384 6.35303E+12 5.65611E+13 5478.95 0.0182998 0.0187179 0.0723049 0.5661958 0.5791318 2.2035581 2.203558 268 24:43.3 574384 6.35303E+12 5.565611E+13 5485.86 0.0182998 0.0185384 0.0723961 0.5661958 0.5735781 2.2063372 2.206337 2.206375 2.206375 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2568058 2.2668058 2.2568058 2.2568058 2.2669143 2.269143 2.269143 2.2697143 2.2697143 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.269714 2.278717 2.278717 2.278727 2.260714 2.2787274 2.2787274 2.278274 2.266274 2.278274 2.266274 2.278274 2.266274 2.278274 2													2.2023153
266 24:43.3 574384 6.35303E+12 5.65611E+13 5485.86 0.0182998 0.0185384 0.0723961 0.5661958 0.5735781 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.2063372 2.266374 2.2667143 2.2667143 2.2568058 2.5002E+13 548.88 0.0182998 0.0184998 0.018495 0.0747572 0.5661958 0.5722353 2.2697143 2.2697143 2.2697143 2.2697143 2.2697143 2.2697143 2.2697143 2.2697143 2.276274 2.278171													2.2035581
270 34:49.1 574386 6.35303E+12 5.5002E+13 548.78 0.0182998 0.018495 0.0744757 0.5661958 0.5722353 2.2697143 2.269714 271 39:52.0 574387 6.35303E+12 5.4816E+13 5489.7 0.0182998 0.0189422 0.0747532 0.5661958 0.5860717 2.278171 2.27817 272 44:54.7 574387 6.35303E+12 5.4816E+13 548.01 0.0182998 0.0185212 0.0746893 0.5661958 0.57730459 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.278224 2.278278 0.5661958 0.5774827 2.2801215 2.28012				6.35303E+12				0.0185384	0.0723961	0.5661958			2.2063372
271 39:52.0 574387 6.35303E+12 5.4816E+13 5489.7 0.0182998 0.0189422 0.0747532 0.5661958 0.5860717 2.278171 2.278172 272 44:54.7 574387 6.35303E+12 5.4816E+13 5485.01 0.0182998 0.0185212 0.0746893 0.5661958 0.5730499 2.2762247 2.2762247 2.2762247 2.276217 2.27627 2.27617 2.276274 2.2762247 2.278227 2.2801215 2.2801215 2.2801215 2.2801215 2.2762247 2.278227 2.2762247 2.2762247 2.278227 2.2762247 2.2762247 2.278227 2.2762247 2.2762247 2.278227 2.2762247 2.2762247 2.278227 2.2762247 2.2762247 2.278225 2.2762247 2.01626481													2.2568058
272 44:54.7 574387 6.35303E+12 5.4816E+13 5485.01 0.0182998 0.0185212 0.0746893 0.5661958 0.5730459 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.276224 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.2801215 2.276224 2.276224 2.276224 2.276224 2.276247 2.276224 2.276244 2.276224 2.276224 2.276224 2.276224 2.276													
273 49:57.6 574387 6.35303E+12 5.4816E+13 5494.4 0.0182998 0.0186646 0.0748172 0.5661958 0.5774827 2.2801215 2.28022762 2.2802262 2.2802262 2.280227													2.2762247
275 00:04.1 574388 6.35303E+12 5.41076E+13 5491.83 0.0173139 0.018643 0.0757612 0.5356921 0.5768144 2.3088909 2.308890 276 05:07.1 574388 6.35303E+12 5.41076E+13 5492.55 0.0173139 0.0186361 0.0757711 0.5356921 0.5766009 2.309193 2.309193 277 10:10.2 574388 6.35303E+12 5.41076E+13 5499.47 0.0173139 0.0186041 0.0758666 0.5356921 0.5756109 2.3121029 2.312102 278 15:13.2 574390 6.35303E+12 5.36713E+13 5499.81 0.0173139 0.0185912 0.0764881 0.5356921 0.5752117 2.331044 279 20:16.0 574393 6.35303E+12 5.4543E+13 5536.99 0.0173139 0.0190842 0.0757157 0.5356921 0.5904651 2.3075042 2.309272 280 30:21.8 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.0198275 0.0757737 0.5356921	273	49:57.6	574387	6.35303E+12	5.4816E+13	5494.4	0.0182998	0.0186646	0.0748172	0.5661958	0.5774827	2.2801215	2.2801215
276 05:07.1 574388 6.35303E+12 5.41076E+13 5492.55 0.0173139 0.0186361 0.0757711 0.5356921 0.5766009 2.3091936 2.309193 277 10:10.2 574388 6.35303E+12 5.41076E+13 5499.47 0.0173139 0.0186041 0.0758666 0.5356921 0.5756109 2.3121029 2.312102 278 15:13.2 574390 6.35303E+12 5.36713E+13 5499.81 0.0173139 0.0185912 0.0764881 0.5356921 0.5752117 2.3310446 279 20:16.0 574393 6.35303E+12 5.4543E+13 5532.69 0.0173139 0.0190842 0.0757157 0.5356921 0.5904651 2.3075042 2.3097504 280 30:21.8 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.0190842 0.0757737 0.5356921 0.6134629 2.3097504 281 35:25.0 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.019975 0.0757737 0.5356921 0.6124573													2.2792957
277 10:10.2 574388 6.35303E+12 5.41076E+13 5499.47 0.0173139 0.0186041 0.0758666 0.5356921 0.5756109 2.3121029 2.312102 278 15:13.2 574390 6.35303E+12 5.36713E+13 5499.81 0.0173139 0.0185912 0.0764881 0.5356921 0.5752117 2.3310446 2.331044 279 20:16.0 574393 6.35303E+12 5.4543E+13 5532.69 0.0173139 0.0190842 0.0757157 0.5356921 0.5904651 2.3075042 2.307504 280 30:21.8 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.0198275 0.0757737 0.5356921 0.6134629 2.3092726 2.309272 281 35:25.0 574393 6.35303E+12 5.4543E+13 5564.48 0.0173139 0.019975 0.0761508 0.3356921 0.6124573 2.307628 2.307628 282 40:28.0 574394 6.35303E+12 5.38779E+13 5538.44 0.0173139 0.020088 0.0767299	-												
278 15:13.2 574390 6.35303E+12 5.36713E+13 5499.81 0.0173139 0.0185912 0.0764881 0.5356921 0.5752117 2.3310446 2.331044 279 20:16.0 574393 6.35303E+12 5.4543E+13 5532.69 0.0173139 0.0190842 0.0757157 0.5356921 0.5904651 2.307504 2.307504 280 30:21.8 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.0198275 0.0757737 0.5356921 0.6134629 2.3092726 2.3092726 2.3092726 2.3092726 2.3207628													2.3121029
280 30:21.8 574393 6.35303E+12 5.4543E+13 5536.93 0.0173139 0.0198275 0.0757737 0.5356921 0.6134629 2.3092726 2.3092726 281 35:25.0 574393 6.35303E+12 5.4543E+13 5564.48 0.0173139 0.019795 0.0761508 0.5356921 0.6124573 2.3207628 2.320762 282 40:28.0 574394 6.35303E+12 5.38779E+13 5538.44 0.0173139 0.020088 0.0767299 0.5356921 0.6215227 2.3384139 2.3384139	278	15:13.2	574390	6.35303E+12	5.36713E+13	5499.81	0.0173139	0.0185912	0.0764881	0.5356921	0.5752117	2.3310446	2.3310446
281 35:25.0 574393 6.35303E+12 5.4543E+13 5564.48 0.0173139 0.019795 0.0761508 0.5356921 0.6124573 2.3207628 2.320762 282 40:28.0 574394 6.35303E+12 5.38779E+13 5538.44 0.0173139 0.020088 0.0767299 0.5356921 0.6215227 2.3384139 2.3384139										0.5356921	0.5904651		2.3075042
282 40:28.0 574394 6.35303E+12 5.38779E+13 5538.44 0.0173139 0.020088 0.0767299 0.5356921 0.6215227 2.3384139 2.338413													
													2.3207628
5.507.500 0.0	283	45:31.1	574395	6.35303E+12	5.53825E+13	5520.08	0.0173139	0.0197988	0.074398	0.5356921	0.6125749		

1	Α	B	C	D	E DTCi	F INAD	G	H	 	J	K	L
284	50:33.9	olock_height 574395	network_diff 6.35303E+12	est_network_hashrate 5.53825E+13	BTC_price 5520.48	day_ahead_LMP 0.0173139	real_time_LMP 0.0198422	breakeven_mining_cost 0.0744034	day_ahead_LMP_rev 0.5356921	real_time_LMP_rev 0.6139177	mining_rev 2.2675111	realized_rev 2.2675111
285	55:36.8	574395	6.35303E+12	5.53825E+13	5515.98	0.0173139	0.0194883	0.0743428	0.5356921	0.602968	2.2656627	2.2656627
286	00:39.8	574395	6.35303E+12	5.53825E+13	5518.69	0.0179626	0.019462	0.0743793	0.5557628	0.6021543	2.2667759	2.2667759
287 288	05:43.2 10:46.2	574395 574395	6.35303E+12 6.35303E+12	5.53825E+13 5.53825E+13	5531.68 5530.89	0.0179626 0.0179626	0.0194192 0.0192349	0.0745544 0.0745437	0.5557628 0.5557628	0.60083 0.5951278	2.2721114	2.2721114 2.2717869
289	15:49.8	574395	6.35303E+12 6.35303E+12	5.53825E+13 5.44713E+13	5530.89	0.0179626	0.0192349	0.075932	0.5557628	0.5937293	2.2717869	2.2/1/869
290	20:52.7	574396	6.35303E+12	5.44713E+13	5544.69	0.0179626	0.0191963	0.0759798	0.5557628	0.5939335	2.3155521	2.3155521
291	25:55.6	574396	6.35303E+12	5.44713E+13	5552.98	0.0179626	0.0192925	0.0760934	0.5557628	0.59691	2.3190142	2.3190142
292 293	30:58.6 36:02.2	574397 574397	6.35303E+12 6.35303E+12	5.38389E+13 5.38389E+13	5536.99 5549.99	0.0179626 0.0179626	0.0189288 0.0191736	0.0767654 0.0769456	0.5557628 0.5557628	0.5856571 0.5932312	2.3394943 2.3449871	2.3394943 2.3449871
294	41:05.2	574397	6.35303E+12	5.38389E+13	5578.73	0.0179626	0.0191736	0.0773441	0.5557628	0.5900877	2.3571303	2.3571303
295	46:08.4	574397	6.35303E+12	5.38389E+13	5587.27	0.0179626	0.0191605	0.0774625	0.5557628	0.5928259	2.3607386	2.3607386
296	51:11.5	574397	6.35303E+12	5.38389E+13	5577.62	0.0179626	0.019671	0.0773287	0.5557628	0.6086207	2.3566613	2.3566613
297 298	56:14.6 01:18.0	574397 574398	6.35303E+12 6.35303E+12	5.38389E+13 5.24135E+13	5578.43 5585.77	0.0179626 0.0181708	0.019726 0.020031	0.0773399 0.0795478	0.5557628 0.5622046	0.6103224 0.6197591	2.3570036	2.3570036 2.42429
298	06:21.5	574398	6.35303E+12	5.22154E+13	5570.36	0.0181708	0.020031	0.0796293	0.5622046	0.6247188	2.42429	2.42429
300	11:24.3	574400	6.35303E+12	5.19602E+13	5563.2	0.0181708	0.0200017	0.0799175	0.5622046	0.6188526	2.4355582	2.4355582
301	16:27.3	574400	6.35303E+12	5.19602E+13	5579.23	0.0181708	0.0200965	0.0801478	0.5622046	0.6217857	2.4425761	2.4425761
302	21:30.3	574400 574401	6.35303E+12	5.19602E+13 5.14241E+13	5571.91	0.0181708 0.0181708	0.0200908 0.0202515	0.0800426 0.0808533	0.5622046	0.6216094 0.6265814	2.4393714 2.4640783	2.4393714 2.4640783
304	26:33.2 31:36.5	574401	6.35303E+12 6.35303E+12	5.14241E+13 5.15991E+13	5570.27 5562.53	0.0181708	0.0202313	0.0804671	0.5622046 0.5622046	0.6254923	2.4523071	2.4523071
305	36:39.4	574402	6.35303E+12	5.15991E+13	5598.28	0.0181708	0.0209438	0.0809843	0.5622046	0.6480012	2.4680679	2.4680679
306	41:42.1	574404	6.35303E+12	5.22163E+13	5622.51	0.0181708	0.0204391	0.0803735	0.5622046	0.6323858	2.4494541	2.4494541
307 308	46:45.3 51:48.2	574405 574406	6.35303E+12 6.35303E+12	5.26766E+13 5.44332E+13	5610.46 5697.34	0.0181708 0.0181708	0.022443 0.0205015	0.0795004 0.0781261	0.5622046 0.5622046	0.6943864 0.6343164	2.4228448	2.4228448 2.3809636
308	56:50.9	574406	6.35303E+12 6.35303E+12	5.44332E+13 5.44179E+13	5660.07	0.0181708	0.0205015	0.0781261	0.5622046	0.6343164	2.3660567	2.3660567
310	06:56.4	574408	6.35303E+12	5.43366E+13	5661.93	0.0189944	0.0199466	0.0777787	0.5876867	0.6171478	2.3703744	2.3703744
311	11:59.9	574409	6.35303E+12	5.45039E+13	5688.4	0.0189944	0.0202274	0.0779024	0.5876867	0.6258358	2.3741451	2.3741451
312	17:03.3	574409	6.35303E+12	5.45039E+13	5705.82	0.0189944	0.0204858 0.0228673	0.0781409	0.5876867	0.6338307	2.3814156	2.3814156
313 314	22:06.7 27:09.6	574409 574410	6.35303E+12 6.35303E+12	5.45039E+13 5.4739E+13	5684.26 5675.94	0.0189944	0.0228673	0.0778457 0.0773979	0.5876867 0.5876867	0.7075143 0.6502938	2.3724172 2.3587711	2.3724172 2.3587711
315	32:12.9	574410	6.35303E+12	5.4739E+13	5704.8	0.0189944	0.0210173	0.0777915	0.5876867	0.6785699	2.3707646	2.3707646
316	37:15.9	574410	6.35303E+12	5.4739E+13	5701.98	0.0189944	0.0220176	0.077753	0.5876867	0.6812245	2.3695926	2.3695926
317	42:18.6	574410	6.35303E+12	5.4739E+13	5732.34	0.0189944	0.0217753	0.078167	0.5876867	0.6737278	2.3822095	2.3822095 2.3907994
318 319	47:21.8 52:25.1	574410 574410	6.35303E+12 6.35303E+12	5.4739E+13 5.4739E+13	5753.01 5756.81	0.0189944 0.0189944	0.0233293 0.0238745	0.0784489 0.0785007	0.5876867 0.5876867	0.7218085 0.738677	2.3907994	2.3907994
320	57:27.9	574412	6.35303E+12	5.33495E+13	5791.51	0.0189944	0.0451717	0.0810308	0.5876867	1.3976124	2.4694857	2.4694857
321	02:31.0	574412	6.35303E+12	5.33495E+13	5778.34	0.0239869	0.0254874	0.0808465	0.7421547	0.7885802	2.46387	2.46387
322	07:34.0	574412	6.35303E+12	5.33495E+13	5695.4	0.0239869	0.0228529	0.0796861	0.7421547	0.7070687	2.4285046	2.4285046
323 324	12:36.8 22:41.7	574412 574413	6.35303E+12 6.35303E+12	5.33495E+13 5.25253E+13	5717.23 5730.11	0.0239869 0.0239869	0.0236822 0.0225552	0.0799915 0.0814296	0.7421547 0.7421547	0.7327273 0.6978579	2.4378128 2.4816407	2.4378128 2.4816407
325	27:44.8	574413	6.35303E+12	5.25253E+13	5715.55	0.0239869	0.0259265	0.0812227	0.7421547	0.8021659	2.475335	2.475335
326	32:47.7	574414	6.35303E+12	5.19701E+13	5734.99	0.0239869	0.025733	0.0823697	0.7421547	0.796179	2.5102894	2.5102894
327 328	37:50.9	574414 574416	6.35303E+12	5.19701E+13	5743.05	0.0239869	0.0260107	0.0824854	0.7421547	0.8047711	2.5138174	2.5138174
328	42:53.7 47:56.5	574416	6.35303E+12 6.35303E+12	5.19215E+13 5.263E+13	5725.93 5733.81	0.0239869	0.0259129 0.0228376	0.0823165 0.0813201	0.7421547 0.7421547	0.8017451 0.7065953	2.5086707 2.4783037	2.5086707 2.4783037
330	52:59.1	574420	6.35303E+12	5.25895E+13	5702.24	0.0239869	0.0369356	0.0809348	0.7421547	1.1427875	2.4665598	2.4665598
331	58:01.8	574421	6.35303E+12	5.25734E+13	5674.41	0.0239869	0.0239106	0.0805643	0.7421547	0.739794	2.4552707	2.4552707
332 333	03:04.8 08:08.0	574422 574424	6.35303E+12 6.35303E+12	5.2543E+13 5.28202E+13	5686.55 5686.98	0.0273845 0.0273845	0.0222843 0.022201	0.0807834 0.0803655	0.8472764 0.8472764	0.6894762 0.6868989	2.4619458 2.4492125	2.4619458 2.4492125
334	13:10.8	574424	6.35303E+12	5.28202E+13	5696.24	0.0273845	0.0222756	0.0804964	0.8472764	0.6892071	2.4532005	2.4532005
335	18:13.9	574424	6.35303E+12	5.28202E+13	5678.52	0.0273845	0.0287661	0.080246	0.8472764	0.8900231	2.445569	2.445569
336	23:16.6	574426	6.35303E+12	5.30049E+13	5680.01	0.0273845	0.0495148	0.0799874	0.8472764	1.5319879	2.4376872	2.4376872
337 338	28:20.7 33:24.6	574427 574427	6.35303E+12 6.35303E+12	5.28466E+13 5.28466E+13	5679.28 5698.99	0.0273845 0.0273845	0.2410973 0.2334656	0.0802166 0.080495	0.8472764 0.8472764	7.4595505 7.2234257	2.4446732	7.4595505 7.2234257
339	38:27.3	574427	6.35303E+12	5.28466E+13	5702.85	0.0273845	0.0497981	0.0805495	0.8472764	1.5407532	2.454819	2.454819
340	43:30.1	574428	6.35303E+12	5.2354E+13	5722.4	0.0273845	0.0284052	0.0815862	0.8472764	0.8788569	2.4864117	2.4864117
341 342	48:33.4 53:36.4	574428 574428	6.35303E+12 6.35303E+12	5.2354E+13 5.2354E+13	5723.27 5711.78	0.0273845 0.0273845	0.0286907 0.0289323	0.0815986 0.0814347	0.8472764 0.8472764	0.8876903 0.8951654	2.4867897 2.4817972	2.4867897 2.4817972
343	58:39.1	574429		5.15634E+13	5700.85	0.0273845	0.0244206	0.0825252	0.8472764	0.7555734	2.5150298	2.5150298
344	03:41.9	574429	6.35303E+12	5.15634E+13	5699.99	0.0280847	0.022925	0.0825128	0.8689406	0.7092995	2.5146504	
345	08:44.7	574429	6.35303E+12	5.15634E+13	5715.88	0.0280847	0.0237192	0.0827428	0.8689406	0.733872	2.5216605	2.5216605
346 347	13:47.4 18:50.2	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5716.7 5707.94	0.0280847 0.0280847	0.0238876 0.0242522	0.0832095 0.0830819	0.8689406 0.8689406	0.7390823 0.7503631	2.5358831 2.5319972	2.5358831 2.5319972
347	23:53.1	574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5707.94	0.0280847	0.0242522	0.0833805	0.8689406	0.7503631	2.5319972	2.5319972
349	28:55.9	574430	6.35303E+12	5.12815E+13	5736.02	0.0280847	0.0243241	0.0834907	0.8689406	0.7525877	2.5444533	2.5444533
350	33:59.1	574430	6.35303E+12	5.12815E+13	5740.86	0.0280847	0.0252158	0.0835611	0.8689406	0.7801769	2.5466002	2.5466002
351 352	44:04.4 49:07.5	574430 574431	6.35303E+12 6.35303E+12	5.12815E+13 4.97074E+13	5732.1 5725.7	0.0280847 0.0280847	0.0252418 0.0487379	0.0834336 0.0859796	0.8689406 0.8689406	0.7809813 1.5079506	2.5427144 2.6203068	2.5427144 2.6203068
353	54:10.5	574432	6.35303E+12	4.99455E+13	5720.02	0.0280847	0.0487379	0.0854849	0.8689406	0.9036275	2.6052295	2.6052295
354	59:14.1	574432	6.35303E+12	4.99455E+13	5706.01	0.0280847	0.0484988	0.0852755	0.8689406	1.5005529	2.5988485	2.5988485
355	04:17.2	574433	6.35303E+12	4.98413E+13	5720.99	0.02809	0.0273041	0.0856781	0.8691046		2.6111164	2.6111164
356 357	09:20.1 14:23.0	574435 574435	6.35303E+12 6.35303E+12	4.97656E+13 4.97656E+13	5725.87 5733.32	0.02809 0.02809	0.0243389 0.0253075	0.0858817 0.0859934	0.8691046 0.8691046	0.7530456 0.7830141	2.6173216 2.620727	2.6173216 2.620727
358	19:26.3	574437	6.35303E+12	4.98823E+13	5729.99	0.02809	0.0279034	0.0857423	0.8691046		2.6130745	
359	24:29.2	574438	6.35303E+12	4.9928E+13	5727.98	0.02809	0.0267925	0.0856339	0.8691046	0.82896	2.6097702	2.6097702
360	29:32.2	574439		4.96328E+13	5746.56	0.02809	0.0491793	0.0864226	0.8691046	1.5216075	2.6338056	2.6338056
361 362	34:35.1 39:38.1	574441 574441	6.35303E+12 6.35303E+12	5.04581E+13 5.04581E+13	5735.82 5745.02	0.02809 0.02809	0.0276204 0.0274064	0.0848502 0.0849863	0.8691046 0.8691046	0.8545752 0.847954	2.5858866 2.5900343	2.5858866 2.5900343
363	44:40.9	574442	6.35303E+12	5.28842E+13	5751.06	0.02809	0.0274004	0.0811728	0.8691046	1.5257349		2.4738132
364	49:44.5	574442	6.35303E+12	5.28842E+13	5741.52	0.02809	0.0353384	0.0810381	0.8691046	1.0933701	2.4697096	2.4697096
365 366	54:47.4	574442	6.35303E+12	5.28842E+13	5741.39	0.02809	0.027241	0.0810363	0.8691046		2.4696537	2.4696537
366	59:50.5 04:53.3	574443 574443	6.35303E+12 6.35303E+12	5.28228E+13 5.28228E+13	5739.18 5735.16	0.02809	0.0260944 0.0263345	0.0810993 0.0810425	0.8691046 0.9485431	0.8073607 0.8147894	2.4715738 2.4698426	2.4715738 2.4698426
368	09:56.1	574443	6.35303E+12	5.28228E+13	5753.15	0.0306575	0.0253812	0.0812967	0.9485431	0.7791063	2.47759	2.47759
369	14:59.6	574443	6.35303E+12	5.28228E+13	5760.65	0.0306575	0.0254094	0.0814027	0.9485431	0.7861668	2.4808199	
370	20:02.9	574443 574444	6.35303E+12	5.28228E+13	5758.01	0.0306575	0.0257154	0.0813654	0.9485431	0.7956345	2.4796829	2.4796829
371 372	25:05.9 30:08.6	574444 574445	6.35303E+12 6.35303E+12	5.21447E+13 5.19166E+13	5763.51 5760.01	0.0306575 0.0306575	0.0255742 0.0285722	0.0825021 0.0828144	0.9485431 0.9485431	0.7912657 0.8840239	2.5143244 2.5238421	2.5143244 2.5238421
373	35:11.4	574446	6.35303E+12	5.17083E+13	5750.9	0.0306575	0.0351964	0.0830164	0.9485431	1.0889766	2.5299985	2.5299985
374	40:15.1	574446	6.35303E+12	5.17083E+13	5762.47	0.0306575	0.0283874	0.0831834	0.9485431	0.8783062	2.5350885	2.5350885
375 376	45:17.8 50:20.6	574446 574448	6.35303E+12 6.35303E+12	5.17083E+13 5.19511E+13	5753.72 5754.06	0.0306575 0.0306575	0.027278 0.0271803	0.0830571 0.0826737	0.9485431 0.9485431	0.8439813 0.8409585	2.5312392 2.5195561	2.5312392 2.5195561
376	55:23.5	574448 574448	6.35303E+12 6.35303E+12	5.19511E+13 5.19511E+13	5754.06	0.0306575	0.0271803	0.0826737	0.9485431	0.8409585		
		3, 1, 10		3.133112.13	2.15.50	2.0300373	3.050505	0.0021754	0.5 .05451	0.5 .0250	,, 00	

	Α	В	C	D	E	F	G	Н	1	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	00:26.7	574448	6.35303E+12	5.19511E+13	5721.44	0.0298141	0.0274938	0.082205	0.9224483	0.8506582	2.5052726	2.5052726
379	05:29.8	574448	6.35303E+12	5.19511E+13	5706.98	0.0298141	0.025617	0.0819973	0.9224483	0.79259	2.4989409	2.4989409
380	10:32.8	574449	6.35303E+12	5.17328E+13	5701.52	0.0298141	0.0262028	0.0822646	0.9224483	0.8107146	2.5070865	2.5070865
381	15:35.6	574450	6.35303E+12	5.16724E+13	5720.36	0.0298141	0.0265338	0.0826329	0.9224483	0.8209558	2.5183117	2.5183117
382	20:38.2	574450	6.35303E+12	5.16724E+13	5715.9	0.0298141	0.0262195	0.0825685	0.9224483	0.8112313	2.5163482	2.5163482
383	25:41.0	574450	6.35303E+12	5.16724E+13	5710.01	0.0298141	0.0263037	0.0824834	0.9224483	0.8138365	2.5137552	2.5137552
384	30:43.8	574450	6.35303E+12	5.16724E+13	5720.01	0.0298141	0.02601	0.0826278	0.9224483	0.8047494	2.5181576	2.5181576
385	35:46.6	574450	6.35303E+12	5.16724E+13	5725.31	0.0298141	0.026584	0.0827044	0.9224483	0.822509	2.5204908	2.5204908
386	40:49.3	574452	6.35303E+12	5.09821E+13	5714.39	0.0298141	0.0267055	0.0836643	0.9224483	0.8262682	2.5497457	2.5497457
387	45:52.2	574454	6.35303E+12	5.11925E+13	5720.01	0.0298141	0.0254888	0.0834024	0.9224483	0.7886235	2.5417623	2.5417623
388	50:55.0	574454	6.35303E+12	5.11925E+13	5704.48	0.0298141	0.0247314	0.0831759	0.9224483	0.7651895	2.5348614	2.5348614
389	55:58.0	574454	6.35303E+12	5.11925E+13	5713.35	0.0298141	0.0244232	0.0833053	0.9224483	0.7556538	2.5388029	2.5388029
390	01:00.9	574454	6.35303E+12	5.11925E+13	5714.69	0.0322754	0.0256095	0.0833248	0.9986009	0.7923579	2.5393983	2.5393983
391	06:03.7	574454	6.35303E+12	5.11925E+13	5710.33	0.0322754	0.024586	0.0832612	0.9986009	0.7606908	2.5374609	2.5374609
392	11:06.7	574454	6.35303E+12	5.11925E+13	5705.52	0.0322754	0.0249145	0.0831911	0.9986009	0.7708546	2.5353235	2.5353235

Bearbox v Lancium
Trial Exhibit

TX920-4

1	A	B block beight	C network diff	D est network hashrate	E RTC price	F day ahoad IMP	G real time IMP	H breakeven mining cost	day ahead IMP rox	real time IMP rov	K mining rev	L realized row
2	datetime 19:54.2	block_height 574204	network_diff 6.35303E+12	est_network_hashrate 5.38327E+13	BTC_price 5320.43	day_ahead_LMP 0.00578	real_time_LMP 0.004853	breakeven_mining_cost 0.0737715	day_ahead_LMP_rev 0.1788332	real_time_LMP_rev 0.1501518	mining_rev 2.2482519	realized_rev 2.2482519
3	24:57.5	574204	6.35303E+12	5.38327E+13	5320.01	0.00578	0.0059132	0.0737656	0.1788332	0.1829544	2.2480744	2.2480744
4	30:00.6	574204	6.35303E+12	5.38327E+13	5319.98	0.00578	0.0058605	0.0737652	0.1788332	0.1813239	2.2480617	2.2480617
5	35:04.1	574205	6.35303E+12		5323.01	0.00578	0.0046039	0.0748484	0.1788332	0.1424447	2.2810714	2.2810714
7	40:07.2 45:10.6	574205 574206	6.35303E+12 6.35303E+12	5.30839E+13 5.44532E+13	5321.94 5326.51	0.00578 0.00578	0.0032873 0.0019272	0.0748333 0.0730143	0.1788332 0.1788332	0.1017091 0.0596276	2.2806129 2.2251767	2.2806129 2.2251767
8	50:13.5	574206	6.35303E+12	5.44532E+13	5326.54	0.00578	0.0070844	0.0730143	0.1788332	0.2191913	2.2251707	2.2251707
9	55:16.9	574207	6.35303E+12	5.39845E+13	5328.24	0.00578	0.0006523	0.0736721	0.1788332	0.0201822	2.2452223	2.2452223
10	00:20.2	574207	6.35303E+12		5325.77	0.0008315	0.0022674	0.0736379	0.0257266	0.0701534	2.2441815	2.2441815
11	05:23.2	574208	6.35303E+12		5325.77	0.0008315	-0.0037312	0.0743518	0.0257266	-0.1154433	2.2659373	2.2659373
12	10:26.1	574208	6.35303E+12		5325.01	0.0008315	-0.0087112	0.0743412	0.0257266	-0.2695245	2.2656139	2.2656139
13 14	15:29.1 20:32.0	574209 574209	6.35303E+12 6.35303E+12	5.33477E+13 5.33477E+13	5321.31 5321.01	0.0008315 0.0008315	0.0006042 0.0008759	0.0744545 0.0744503	0.0257266 0.0257266	0.0186939 0.0271003	2.2690675 2.2689395	2.2690675 2.2689395
15	25:36.1	574210	6.35303E+12		5326.26	0.0008315	-0.0192181	0.0741425	0.0257266	-0.594608	2.2595592	2.2595592
16	30:39.1	574212	6.35303E+12	5.54528E+13	5327.73	0.0008315	-0.0318283	0.0717145	0.0257266	-0.9847676	2.1855639	2.1855639
17	35:42.2	574213	6.35303E+12	5.51131E+13	5321.02	0.0008315	-0.0308899	0.0720657	0.0257266	-0.9557335	2.1962672	2.1962672
18	40:45.0	574215	6.35303E+12	5.58834E+13	5323.1	0.0008315	-0.0302146	0.0711001	0.0257266	-0.9348397	2.1668382	2.1668382
19	45:47.9	574215	6.35303E+12	5.58834E+13	5323.1	0.0008315	-0.0268742	0.0711001	0.0257266	-0.8314877	2.1668382	2.1668382
20	50:51.0 55:53.8	574215 574215	6.35303E+12 6.35303E+12	5.58834E+13 5.58834E+13	5326.69 5326.69	0.0008315 0.0008315	-0.0311753 -0.0321213	0.071148 0.071148	0.0257266 0.0257266	-0.9645638 -0.993833	2.1682995 2.1682995	2.1682995 2.1682995
22	00:56.7	574216	6.35303E+12		5328.81	0.0008313	-0.0321213	0.0717448	0.0082857	-0.96681	2.1864882	2.1864882
23	06:00.2	574216	6.35303E+12	5.54406E+13	5330.34	0.0002678	-0.0031224	0.0717654	0.0082857	-0.0966071	2.187116	2.187116
24	11:03.3	574219	6.35303E+12	5.59245E+13	5326.73	0.0002678	-0.0192773	0.0710963	0.0082857	-0.5964397	2.1667245	2.1667245
25	16:06.7	574220	6.35303E+12	5.59914E+13	5330.77	0.0002678	-0.0176475	0.0710652	0.0082857	-0.5460137	2.1657754	2.1657754
26	21:09.7	574220	6.35303E+12	5.59914E+13	5343.69	0.0002678	-0.0277873	0.0712374	0.0082857	-0.8597391	2.1710246	2.1710246
27 28	26:12.7 31:15.7	574225 574226	6.35303E+12 6.35303E+12	5.59876E+13 5.60441E+13	5336.9 5333.74	0.0002678 0.0002678	-0.030291 -0.0263247	0.0711518 0.0710379	0.0082857 0.0082857	-0.9372035 -0.8144862	2.1684142 2.1649441	2.1684142 2.1649441
28	36:18.6	574226	6.35303E+12 6.35303E+12	5.60441E+13 5.56725E+13	5333.74	0.0002678	-0.0263247	0.0710379	0.0082857	-0.8144862	2.1649441	2.1649441
30	41:21.5	574227	6.35303E+12	5.56725E+13	5332.07	0.0002678	-0.0199701	0.0714897	0.0082857	-0.6178749	2.1787132	2.1787132
31	46:24.4	574227	6.35303E+12	5.56725E+13	5343.99	0.0002678	-0.0196127	0.0716495	0.0082857	-0.6068169	2.1835838	2.1835838
32	51:27.4	574228	6.35303E+12	5.52451E+13	5343.99	0.0002678	-0.0293809	0.0722038	0.0082857	-0.909045	2.2004762	2.2004762
33	56:30.6	574229	6.35303E+12		5328.81	0.0002678	-0.0237092	0.0711654	0.0082857	-0.7335626	2.1688293	2.1688293
34	01:33.6 06:36.6	574229 574229	6.35303E+12 6.35303E+12	5.5892E+13	5339.09 5341.16	0.0001906 0.0001906	-0.0188617 -0.0309174	0.0713027	0.0058972 0.0058972	-0.583581	2.1730133	2.1730133 2.1738558
35 36	11:39.5	574229	6.35303E+12 6.35303E+12	5.5892E+13 5.53347E+13	5341.16	0.0001906	-0.0309174	0.0713303 0.0721165	0.0058972	-0.9565844 -0.9401985	2.1738558 2.1978165	2.1738558
37	16:43.0	574230	6.35303E+12		5351.52	0.0001906	-0.0302747	0.0721884	0.0058972	-0.9366992	2.2000077	2.2000077
38	21:45.9	574231	6.35303E+12		5348.15	0.0001906	-0.0280594	0.0726599	0.0058972	-0.8681578	2.2143761	2.2143761
39	26:48.7	574231	6.35303E+12	5.49411E+13	5345.36	0.0001906	-0.0282238	0.072622	0.0058972	-0.8732444	2.2132209	2.2132209
40	31:52.1	574231	6.35303E+12		5345.35	0.0001906	-0.0268535	0.0726219	0.0058972	-0.8308473	2.2132168	2.2132168
41	36:55.6 41:58.8	574232 574232	6.35303E+12	5.47061E+13 5.47061E+13	5345.57 5346.06	0.0001906 0.0001906	-0.0274178 -0.0274027	0.0729368 0.0729435	0.0058972 0.0058972	-0.8483067 -0.8478395	2.222815 2.2230187	2.222815 2.2230187
42	47:01.8	574232	6.35303E+12 6.35303E+12	5.47061E+13	5364.94	0.0001906	-0.028909	0.0732011	0.0058972	-0.8944445	2.230187	2.230167
44	52:04.7	574232	6.35303E+12		5358.68	0.0001906	-0.028169	0.0731157	0.0058972	-0.8715489	2.2282664	2.2282664
45	57:07.9	574232	6.35303E+12	5.47061E+13	5363.38	0.0001906	-0.0263077	0.0731798	0.0058972	-0.8139602	2.2302208	2.2302208
46	02:11.0	574233	6.35303E+12	5.35475E+13	5374.99	0.002727	-0.0263014	0.074925	0.0843734	-0.8137653	2.283406	2.283406
47	07:14.0	574233	6.35303E+12	5.35475E+13	5371.65	0.002727	-0.0028313	0.0748784	0.0843734	-0.0876004	2.2819871	2.2819871
48	12:17.0 17:20.3	574233 574233	6.35303E+12 6.35303E+12		5364.6 5366.68	0.002727 0.002727	-0.0008554 -0.0182652	0.0747801 0.0748091	0.0843734 0.0843734	-0.0264661 -0.5651253	2.2789921 2.2798757	2.2789921 2.2798757
50	22:23.4	574234	6.35303E+12		5358.76	0.002727	-0.0182032	0.0752411	0.0843734	-0.0603918	2.2930408	2.2930408
51	27:26.4	574234	6.35303E+12	5.31615E+13	5358.18	0.002727	-0.0147848	0.075233	0.0843734	-0.4574417	2.2927926	2.2927926
52	32:29.3	574234	6.35303E+12	5.31615E+13	5349.69	0.002727	-0.0033411	0.0751138	0.0843734	-0.1033736	2.2891597	2.2891597
53	37:32.1	574235	6.35303E+12	5.26774E+13	5347.97	0.002727	-0.016204	0.0757796	0.0843734	-0.5013518	2.3094528	2.3094528
54	42:35.1	574236	6.35303E+12	5.29706E+13	5347.88	0.002727	-0.031637	0.075359	0.0843734	-0.9788488	2.2966332	2.2966332
55 56	47:38.0 52:40.8	574237 574238	6.35303E+12 6.35303E+12	5.26741E+13 5.2719E+13	5352.24 5350.15	0.002727 0.002727	-0.0303036 -0.0054995	0.075845 0.0757508	0.0843734 0.0843734	-0.9375934 -0.1701545	2.3114455 2.308573	2.3114455 2.308573
57	57:43.7	574238	6.35303E+12	5.2719E+13	5357.76	0.002727	-0.0016084	0.0758585	0.0843734	-0.0497639	2.3118566	2.3118566
58	02:46.6	574239	6.35303E+12	5.28168E+13	5351.07	0.0122937	-0.0317924	0.0756235	0.3803671	-0.9836569	2.3046947	2.3046947
59	07:49.3	574240	6.35303E+12	5.25658E+13	5350.11	0.0122937	-0.0305799	0.075971	0.3803671	-0.9461421	2.3152833	2.3152833
60	12:52.7	574242	6.35303E+12		5352.35	0.0122937	-2.70E-06	0.0747924	0.3803671	-8.35E-05		2.2793657
61 62	17:55.6 22:58.3	574243 574245	6.35303E+12 6.35303E+12		5355.51 5358.7	0.0122937 0.0122937	0.0003845 0.000944	0.0747047 0.074274	0.3803671 0.3803671	0.0118964 0.0292074	2.2766932 2.2635674	2.2766932 2.2635674
63	28:01.2	574245	6.35303E+12		5358.74	0.0122937	-0.0033438	0.0738446	0.3803671	-0.1034572	2.2535674	2.2535674
64	33:04.2	574246	6.35303E+12		5361.99	0.0122937	-0.001393	0.0738894	0.3803671	-0.0430994	2.2518446	2.2518446
65	38:07.1	574246	6.35303E+12	5.41667E+13	5364.93	0.0122937	0.0048462	0.0739299	0.3803671	0.1499414	2.2530793	2.2530793
66	43:10.0	574247	6.35303E+12		5365.93	0.0122937	-0.0155818	0.0745663	0.3803671	-0.4821009	2.2724742	2.2724742
67	48:12.9 53:15.7	574249 574251	6.35303E+12 6.35303E+12		5360.33 5359.19	0.0122937 0.0122937	-0.0014069 0.0018241	0.0736074 0.0724055	0.3803671 0.3803671	-0.0435295 0.0564377	2.2432526 2.2066234	2.2432526 2.2066234
68 69	58:15.7	574251	6.35303E+12 6.35303E+12		5359.19	0.0122937	0.0018241	0.0724055	0.3803671	0.0564377	2.2066234	2.2066234
70	03:21.9	574252	6.35303E+12	5.50584E+13	5360.64	0.0122937	0.0051394	0.0726744	0.5320504	0.159013	2.2137223	2.2137223
71	08:26.1	574253	6.35303E+12		5362.51	0.0171962	0.1603687	0.0720555	0.5320504	4.9618076	2.195957	4.9618076
72	13:29.5	574254	6.35303E+12		5360.24	0.0171962	0.01377	0.0719957	0.5320504	0.4260438	2.1941337	2.1941337
73	18:32.5	574255	6.35303E+12		5358.19	0.0171962	0.0100579	0.0714478	0.5320504	0.3111914	2.1774367	2.1774367
74 75	23:35.5 28:38.4	574257 574257	6.35303E+12 6.35303E+12		5367.35 5368.93	0.0171962 0.0171962	0.0107012 0.0084507	0.0716018 0.0716229	0.5320504 0.5320504	0.3310951 0.2614647	2.1821286 2.182771	2.1821286 2.182771
76	33:41.3	574257	6.35303E+12 6.35303E+12		5368.93	0.0171962	0.0084507	0.0716229	0.5320504	0.2614647	2.1827/1	2.1827/1
77	38:44.2	574258	6.35303E+12		5368.01	0.0171962	0.0068217	0.071301	0.5320504	0.2110634	2.1729618	2.1729618
78	43:47.2	574258	6.35303E+12		5363.48	0.0171962	0.0079017	0.0712408	0.5320504	0.2444786	2.1711281	2.1711281
79	48:50.1	574258	6.35303E+12		5363.48	0.0171962	0.0076457	0.0712408	0.5320504	0.236558	2.1711281	2.1711281
80	53:56.7	574258	6.35303E+12		5368.74	0.0171962	0.0078845	0.0713107	0.5320504	0.2439464	2.1732573	2.1732573
81 82	58:59.6 04:02.6	574258 574258	6.35303E+12 6.35303E+12		5368.9 5360.85	0.0171962 0.0175577	0.0094093 0.0099461	0.0713128 0.0712059	0.5320504 0.5432352	0.2911237 0.3077323	2.1733221 2.1700634	2.1733221 2.1700634
83	04:02.6		6.35303E+12 6.35303E+12		5360.85	0.0175577	0.0099461	0.0712059		0.3077323	2.1700634	2.1700634
84	14:08.7	574260	6.35303E+12		5364.69	0.0175577	0.0115262	0.0733029	0.5432352	0.3566206	2.2339708	2.2339708
85	19:11.6	574260	6.35303E+12		5368.72	0.0175577	0.0089289	0.0733579	0.5432352	0.2762602	2.2356489	2.2356489
86	24:14.7	574260	6.35303E+12	5.46276E+13	5366.48	0.0175577	0.0086263	0.0733273	0.5432352	0.2668977	2.2347162	2.2347162
87	29:17.6	574260	6.35303E+12		5367.76	0.0175577	0.007468	0.0733448	0.5432352	0.2310599	2.2352492	2.2352492
88	34:20.8	574261	6.35303E+12		5366.92	0.0175577	0.0084062	0.0746547	0.5432352	0.2600878	2.2751678	2.2751678
89 90	39:23.6 44:26.5	574261 574261	6.35303E+12 6.35303E+12		5366.01 5364.41	0.0175577 0.0175577	0.007763 0.0087491	0.074642 0.0746197	0.5432352 0.5432352	0.2401872 0.2706972	2.2747821 2.2741038	2.2747821 2.2741038
91	49:29.5	574261	6.35303E+12		5364.41	0.0175577	0.0087491	0.0746182	0.5432352	0.2696699	2.2741038	2.2741038
92	54:32.3	574261	6.35303E+12		5377.85	0.0175577	0.0108497	0.0748067	0.5432352	0.3356897	2.2798013	2.2798013
93	59:35.3	574264	6.35303E+12	5.43564E+13	5373.82	0.0175577	0.008836	0.0737939	0.5432352	0.2733858	2.2489354	2.2489354
94	04:38.1	574267	6.35303E+12		5366.58	0.0193084	0.0083686	0.0722558		0.2589245	2.2020604	2.2020604
95	09:40.9	574268	6.35303E+12	5.60115E+13	5356.55	0.0193084	0.0080606	0.0713832	0.5974019	0.249395	2.1754678	2.1754678

1	Α	B	C	D	E DTCi	F	G	H	 	J	K	L
96	datetime b	olock_height 574269	network_diff 6.35303E+12	est_network_hashrate 5.58958E+13	BTC_price 5342.94	day_ahead_LMP 0.0193084	real_time_LMP 0.0088646	breakeven_mining_cost 0.0713492	day_ahead_LMP_rev 0.5974019	real_time_LMP_rev 0.2742707	mining_rev 2.1744317	realized_rev 2.1744317
97	19:46.6	574270	6.35303E+12	5.6144E+13	5354.22	0.0193084	0.0082941	0.0711837	0.5974019	0.2566195	2.1693883	2.1693883
98	24:49.9	574271	6.35303E+12	5.6095E+13	5356.83	0.0193084	0.0080762	0.0712807	0.5974019	0.2498776	2.1723438	2.1723438
99 100	29:52.8	574271 574272	6.35303E+12 6.35303E+12	5.6095E+13 5.54087E+13	5351.83	0.0193084 0.0193084	0.0079524	0.0712142 0.0721391	0.5974019 0.5974019	0.2460473 0.2513999	2.1703161 2.1985034	2.1703161 2.1985034
101	34:55.7 39:58.5	574272	6.35303E+12 6.35303E+12	5.53104E+13	5355.01 5355.83	0.0193084	0.0081254 0.0085607	0.0721391	0.5974019	0.2648681	2.1985034	2.1985034
102	45:01.9	574274	6.35303E+12	5.53441E+13	5354.54	0.0193084	0.0106324	0.072217	0.5974019	0.3289665	2.2008772	2.2008772
103	50:05.0	574274	6.35303E+12	5.53441E+13	5352.64	0.0193084	0.0119823	0.0721913	0.5974019	0.3707324	2.2000962	2.2000962
104 105	55:07.9 00:10.9	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5355.99 5375.12	0.0193084 0.021824	0.0171955 0.014679	0.0722365 0.0724945	0.5974019 0.6752346	0.5320288 0.4541683	2.2014732	2.2014732 2.2093362
106	05:13.9	574274	6.35303E+12	5.53441E+13	5373.12	0.021824	0.0098275	0.0724475	0.6752346	0.3040628	2.2093302	2.2033302
107	10:17.8	574274	6.35303E+12	5.53441E+13	5366.65	0.021824	0.0157044	0.0723803	0.6752346	0.4858941	2.2058548	2.2058548
108	15:20.8	574274	6.35303E+12	5.53441E+13	5362.88	0.021824	0.0161219	0.0723295	0.6752346	0.4988116	2.2043052	2.2043052
109	20:23.7 25:26.5	574275 574275	6.35303E+12 6.35303E+12	5.36343E+13 5.36343E+13	5367 5371.56	0.021824 0.021824	0.016142 0.0159439	0.0746925 0.0747559	0.6752346 0.6752346	0.4994335 0.4933043	2.2763203	2.2763203 2.2782544
111	30:29.4	574276	6.35303E+12	5.309E+13	5370.52	0.021824	0.0201562	0.0755079	0.6752346	0.6236328	2.3011697	2.3011697
112	35:32.1	574278	6.35303E+12	5.49235E+13	5373.23	0.021824	0.0193584	0.0730239	0.6752346	0.5989489	2.2254696	2.2254696
113	40:35.0	574281	6.35303E+12	5.67946E+13	5385.74	0.021824	0.0173956	0.0707827	0.6752346	0.5382199	2.1571652	2.1571652
114 115	45:37.8 50:40.6	574281 574281	6.35303E+12 6.35303E+12	5.67946E+13 5.67946E+13	5380.67 5377.85	0.021824 0.021824	0.0172587 0.0135506	0.070716 0.070679	0.6752346 0.6752346	0.5339842 0.4192556	2.1551345 2.154005	2.1551345 2.154005
116	55:43.6	574282	6.35303E+12	5.6096E+13	5376.85	0.021824	0.0181589	0.0715459	0.6752346	0.5618364	2.1804251	2.1804251
117	00:46.5	574282	6.35303E+12	5.6096E+13	5379.99	0.0237731	0.0180514	0.0715877	0.7355397	0.5585103	2.1816984	2.1816984
118	05:49.7	574283	6.35303E+12	5.56063E+13	5400.03	0.0237731	0.0201106	0.0724871	0.7355397	0.622222	2.2091081	2.2091081
119 120	10:52.9 15:55.8	574283 574283	6.35303E+12 6.35303E+12	5.56063E+13 5.56063E+13	5401.02 5411.08	0.0237731 0.0237731	0.0199693 0.0212877	0.0725003 0.0726354	0.7355397 0.7355397	0.6178501 0.6586414	2.2095131	2.2095131 2.2136286
121	20:59.8	574283	6.35303E+12	5.64188E+13	5411.08	0.0237731	0.0212877	0.0726354	0.7355397	0.6455569	2.2136286	2.2136286
122	26:03.1	574284	6.35303E+12	5.64188E+13	5401.31	0.0237731	0.0203588	0.0714601	0.7355397	0.6299013	2.1778109	2.1778109
123	31:06.6	574285	6.35303E+12	5.57835E+13	5409.35	0.0237731	0.0207637	0.0723816	0.7355397	0.6424289	2.2058933	2.2058933
124 125	36:09.6 41:12.5	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5396.6 5405.56	0.0237731 0.0237731	0.0198566 0.0206568	0.072211 0.0723309	0.7355397 0.7355397	0.6143632 0.6391214	2.2006939 2.2043478	2.2006939 2.2043478
126	46:15.4	574285	6.35303E+12	5.57835E+13 5.57835E+13	5405.56	0.0237731	0.0206568	0.0723309	0.7355397	0.6311482	2.2043478	2.2043478
127	51:18.8	574285	6.35303E+12	5.57835E+13	5400.14	0.0237731	0.0206351	0.0722583	0.7355397	0.63845	2.2021375	2.2021375
128	56:21.7	574285	6.35303E+12	5.57835E+13	5401.59	0.0237731	0.0206066	0.0722777	0.7355397	0.6375682	2.2027288	2.2027288
129 130	01:25.2 06:28.3	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5405.56 5409.65	0.0248369	0.0206776 0.0208352	0.0723309 0.0723856	0.7684537 0.7684537	0.6397649 0.6446411	2.2043478	2.2043478 2.2060156
131	11:31.3	574286	6.35303E+12	5.36818E+13	5410.84	0.0248369	0.0207924	0.075236	0.7684537	0.6433169	2.2928844	2.2928844
132	16:34.7	574287	6.35303E+12	5.50908E+13	5403.01	0.0248369	0.020789	0.0732057	0.7684537	0.6432117	2.2310097	2.2310097
133	21:38.0	574287	6.35303E+12	5.50908E+13	5380.86	0.0248369	0.0208418	0.0729056	0.7684537	0.6448453	2.2218635	2.2218635
134 135	26:41.1 31:44.2	574288 574289	6.35303E+12 6.35303E+12	5.6446E+13 5.61643E+13	5384.99 5388.52	0.0248369	0.0208444 0.0219035	0.0712098 0.071614	0.7684537 0.7684537	0.6449257 0.6776943	2.1701832 2.1824996	2.1701832 2.1824996
136	36:47.6	574289	6.35303E+12	5.61643E+13	5385.01	0.0248369	0.0219719	0.0715673	0.7684537	0.6798106	2.1810779	2.1810779
137	41:50.8	574289	6.35303E+12	5.61643E+13	5382.53	0.0248369	0.0214093	0.0715343	0.7684537	0.6624037	2.1800735	2.1800735
138	46:53.8	574289	6.35303E+12	5.61643E+13	5379.16	0.0248369	0.0219768	0.0714896	0.7684537	0.6799622	2.1787085	2.1787085
139 140	51:56.9 57:00.0	574292 574293	6.35303E+12 6.35303E+12	5.59818E+13 5.63654E+13	5379.99 5381.68	0.0248369 0.0248369	0.0220687 0.0220272	0.0717336 0.0712679	0.7684537 0.7684537	0.6828056 0.6815216	2.1861462 2.1719525	2.1861462 2.1719525
141	02:02.8	574294	6.35303E+12	5.66874E+13	5378.04	0.026102	0.0214717	0.0708151	0.8075959	0.6643344	2.1581537	2.1581537
142	07:05.8	574295	6.35303E+12	5.71185E+13	5388.44	0.026102	0.0216698	0.0704165	0.8075959	0.6704636	2.1460054	2.1460054
143 144	12:09.0 17:12.0	574296 574298	6.35303E+12 6.35303E+12	5.69506E+13 5.77593E+13	5391.26 5388.44	0.026102 0.026102	0.0218279 0.0242173	0.070661 0.0696352	0.8075959 0.8075959	0.6753552 0.7492833	2.1534583	2.1534583 2.1221966
145	22:15.5	574298	6.35303E+12	5.77593E+13	5392.01	0.026102	0.0224338	0.0696814	0.8075959	0.6941018	2.1221966	2.1221900
146	27:18.5	574298	6.35303E+12	5.77593E+13	5397.27	0.026102	0.0259045	0.0697494	0.8075959	0.8014852	2.1256743	2.1256743
147	32:21.8	574300	6.35303E+12	5.74492E+13	5392.2	0.026102	0.0266314	0.07006	0.8075959	0.8239755	2.1351406	2.1351406
148 149	37:25.9 42:30.2	574301 574301	6.35303E+12 6.35303E+12	5.7613E+13 5.7613E+13	5391.27 5391.55	0.026102 0.026102	0.0850755 0.2222933	0.0698488 0.0698524	0.8075959 0.8075959	2.632236 6.8777547	2.1287047	2.632236 6.8777547
150	47:34.8	574301	6.35303E+12	5.77583E+13	5397.52	0.026102	0.1579206	0.0697538	0.8075959	4.8860634	2.1258102	4.8860634
151	52:39.0	574302	6.35303E+12	5.77583E+13	5396.44	0.026102	0.1798101	0.0697399	0.8075959	5.5633245	2.1253849	5.5633245
152	57:42.9	574305	6.35303E+12	5.8471E+13	5390.94	0.026102	0.1776521	0.0688196	0.8075959	5.496556	2.097339	5.496556
153 154	02:47.4 07:50.3	574305 574305	6.35303E+12 6.35303E+12	5.8471E+13 5.8471E+13	5391.58 5393.02	0.0283817 0.0283817	0.2214449 0.0381924	0.0688278 0.0688461	0.8781298 0.8781298	6.8515052 1.1816729	2.097588	6.8515052 2.0981483
155	12:53.3	574306		5.85526E+13	5393.03	0.0283817	0.0284554	0.0687504	0.8781298	0.8804101	2.0952297	2.0952297
156	17:56.2	574309	6.35303E+12	6.00748E+13	5395.99	0.0283817	0.0254553	0.0670451	0.8781298	0.787587	2.0432598	
157 158	22:59.6	574309 574310	6.35303E+12	6.00748E+13	5395.98	0.0283817	0.0262791	0.067045	0.8781298	0.8130754	2.043256	2.043256
158	28:03.3 33:06.3	574310 574311	6.35303E+12 6.35303E+12	6.02983E+13 6.01255E+13	5397.49 5398.95	0.0283817 0.0283817	0.0261018 0.0304073	0.0668152 0.0670253	0.8781298 0.8781298	0.8075897 0.9408019	2.0362532	2.0362532 2.0426553
160	38:09.3	574312	6.35303E+12	5.99055E+13	5397.51	0.0283817	0.0304044	0.0672535	0.8781298	0.9407121	2.0496101	2.0496101
161	43:12.3	574312	6.35303E+12	5.99055E+13	5396.26	0.0283817	0.0304455	0.0672379	0.8781298	0.9419838	2.0491354	2.0491354
162 163	48:15.1 53:18.0	574314 574315	6.35303E+12 6.35303E+12	5.98595E+13 5.97623E+13	5395.6 5391.83	0.0283817 0.0283817	0.0262044 0.0289928	0.0672813 0.0673437	0.8781298 0.8781298	0.8107641 0.8970372	2.0504592	2.0504592 2.0523603
164	58:21.0	574315	6.35303E+12	5.97623E+13 5.97623E+13	5391.83	0.0283817	0.0289928	0.0673114	0.8781298	0.8189354	2.0523603	2.0523603
165	03:26.0	574317	6.35303E+12	6.04051E+13	5387.74	0.0300741	0.2152297	0.0665766	0.9304927	6.6592069	2.0289816	6.6592069
166	08:29.4	574317	6.35303E+12	6.04051E+13	5389.07	0.0300741	0.0276958	0.066593	0.9304927	0.8569081	2.0294825	2.0294825
167 168	13:33.7 18:36.6	574320 574320	6.35303E+12 6.35303E+12	6.21737E+13 6.21737E+13	5394.18 5398.38	0.0300741 0.0300741	0.228944 0.049694	0.06476 0.0648105	0.9304927 0.9304927	7.0835274 1.5375324	1.9736205 1.9751572	7.0835274 1.9751572
169	23:39.6	574320		6.21737E+13	5403.1	0.0300741	0.049694	0.0648671	0.9304927	1.1688637	1.9768841	1.9768841
170	28:42.4	574320	6.35303E+12	6.21737E+13	5406.31	0.0300741	0.0309783	0.0649057	0.9304927	0.9584686	1.9780586	1.9780586
171	33:45.1	574321	6.35303E+12	6.17749E+13	5402.68	0.0300741	0.0285783	0.0652808	0.9304927	0.8842126	1.989492	1.989492
172 173	38:48.0 43:51.4	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5407.64 5407.6	0.0300741 0.0300741	0.028437 0.0279646	0.0653408 0.0653403	0.9304927 0.9304927	0.8798408 0.8652247	1.9913185 1.9913038	1.9913185 1.9913038
174	48:54.4	574321	6.35303E+12	6.17749E+13	5409.48	0.0300741	0.0279646	0.065363	0.9304927	0.8712952	1.9919056	1.9913038
175	53:57.3	574321	6.35303E+12	6.17749E+13	5414.01	0.0300741	0.0281735	0.0654177	0.9304927	0.8716881	1.9936642	1.9936642
176	59:00.1	574321	6.35303E+12	6.17749E+13	5398.73	0.0300741	0.0270448	0.0652331	0.9304927	0.8367661	1.9880375	1.9880375
177 178	04:03.7 09:06.9	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5392.99 5391.48	0.0293844 0.0293844	0.0270641 0.027187	0.0651637 0.0651455	0.9091533 0.9091533	0.8373633 0.8411658	1.9859238	1.9859238 1.9853677
179	14:10.4	574321	6.35303E+12	6.17749E+13	5391.48	0.0293844	0.027187	0.0651455	0.9091533	0.8337742	1.9853677	1.9853677
180	19:13.3	574321	6.35303E+12	6.17749E+13	5394.88	0.0293844	0.0270086	0.0651866	0.9091533	0.8356461	1.9866197	1.9866197
181	24:16.5	574321	6.35303E+12	6.17749E+13	5394.01	0.0293844	0.027136	0.0651761	0.9091533	0.8395878	1.9862994	1.9862994
182 183	29:19.7 34:22.8	574321 574322	6.35303E+12 6.35303E+12	6.17749E+13 5.8824E+13	5393.45 5392.88	0.0293844 0.0293844	0.0270192 0.0269702	0.0651693 0.0684313	0.9091533 0.9091533	0.835974 0.834458	1.9860931 2.0855052	1.9860931 2.0855052
184	34:22.8	574322	6.35303E+12 6.35303E+12	5.8824E+13 5.8824E+13	5392.88	0.0293844	0.0269702	0.0684313	0.9091533	0.834458	2.0855052	2.0855052
185	44:29.0	574323	6.35303E+12	5.85421E+13	5392.66	0.0293844	0.0276092	0.068758	0.9091533	0.8542286	2.0954606	2.0954606
186	49:31.9	574323	6.35303E+12	5.85421E+13	5399.52	0.0293844	0.0268734	0.0688454	0.9091533	0.831463	2.0981263	2.0981263
187 188	54:34.7 59:37.5	574324 574326	6.35303E+12 6.35303E+12	5.81584E+13 5.98016E+13	5403.19 5404.52	0.0293844 0.0293844	0.0277725 0.0305521	0.0693467 0.0674579	0.9091533 0.9091533	0.8592812 0.945282	2.1134037 2.055839	2.1134037 2.055839
188	04:40.2	574326		5.98016E+13 5.98016E+13	5404.52	0.0293844	0.0305521	0.0674579	0.9091533	1.1198362	2.055839	2.055839
		,		0.000000				2.22. 1200				

1	A	B	C	D	E DTCi	F INAD	G	H	 	J	K	L
190	datetime l	block_height 574327	network_diff 6.35303E+12	est_network_hashrate 5.96067E+13	BTC_price 5400.79	day_ahead_LMP 0.0303728	real_time_LMP 0.0289272	breakeven_mining_cost 0.0676317	day_ahead_LMP_rev 0.9397344	real_time_LMP_rev 0.8950076	mining_rev 2.0611364	realized_rev 2.0611364
191	14:45.8	574327	6.35303E+12	5.96067E+13	5402.51	0.0303728	0.0277593	0.0676532	0.9397344	0.8588727	2.0617928	2.0617928
192	19:48.6	574328	6.35303E+12	5.96752E+13	5405.01	0.0303728	0.0260079	0.0676069	0.9397344	0.8046844	2.0603812	2.0603812
193 194	24:53.1	574328	6.35303E+12 6.35303E+12	5.96752E+13 5.96752E+13	5405.56	0.0303728	0.027473	0.0676138 0.0677191	0.9397344 0.9397344	0.8500146 0.8436379	2.0605909	2.0605909 2.0638005
194	29:56.2 34:59.4	574328 574329	6.35303E+12 6.35303E+12	5.94855E+13	5413.98 5414.16	0.0303728	0.0272669 0.027398	0.0679373	0.9397344	0.8476941	2.0638005 2.0704516	2.0638005
196	40:02.3	574330	6.35303E+12	5.97035E+13	5414.01	0.0303728	0.0273913	0.0676874	0.9397344	0.8474868	2.0628341	2.0628341
197	45:05.1	574331	6.35303E+12	5.96567E+13	5411.51	0.0303728	0.0260921	0.0677092	0.9397344	0.8072896	2.0634981	2.0634981
198 199	50:08.5 55:11.1	574333 574333	6.35303E+12 6.35303E+12	5.9734E+13 5.9734E+13	5408.31 5400.01	0.0303728 0.0303728	0.0272287 0.0272351	0.0675816 0.0674779	0.9397344 0.9397344	0.842456 0.842654	2.0596102	2.0596102 2.0564494
200	05:16.6	574335	6.35303E+12	5.9018E+13	5400.01	0.0303728	0.0272331	0.0674779	0.9039152	0.8815796	2.0304494	2.0816708
201	10:20.2	574337	6.35303E+12	6.04407E+13	5401.43	0.0292151	0.0273247	0.0667064	0.9039152	0.8454262	2.0329364	2.0329364
202	15:23.2	574337	6.35303E+12	6.04407E+13	5403.84	0.0292151	0.0270874	0.0667361	0.9039152	0.8380842	2.0338434	2.0338434
203	20:26.3	574340	6.35303E+12 6.35303E+12	6.01388E+13	5404.02	0.0292151	0.0266421 0.0261271	0.0670734 0.0667116	0.9039152	0.8243066 0.8083725	2.044123	2.044123
204	30:31.9 35:34.8	574342 574343	6.35303E+12	6.0482E+13 5.99395E+13	5405.55 5400.01	0.0292151 0.0292151	0.0267626	0.0672465	0.9039152 0.9039152	0.8280348	2.0330975	2.0330975
206	40:37.9	574343	6.35303E+12	5.99395E+13	5399.02	0.0292151	0.0266166	0.0672341	0.9039152	0.8235176	2.0490207	2.0490207
207	45:41.0	574344	6.35303E+12	5.95861E+13	5399.01	0.0292151	0.0272594	0.0676328	0.9039152	0.8434058	2.0611697	2.0611697
208	50:43.8	574344 574344	6.35303E+12	5.95861E+13	5394.85	0.0292151	0.0266036	0.0675807	0.9039152	0.8231154	2.0595816	2.0595816 2.0609177
210	55:46.5 00:51.0	574345	6.35303E+12 6.35303E+12	5.95861E+13 5.83668E+13	5398.35 5398.44	0.0292151	0.0268144 0.2283316	0.0676245 0.0690384	0.9039152 0.8743458	0.8296375 7.0645797	2.1040074	7.0645797
211	05:53.8	574346	6.35303E+12	5.84022E+13	5394.51	0.0282594	0.0270103	0.0689463	0.8743458	0.8356987	2.1012014	2.1012014
212	10:57.1	574347	6.35303E+12	5.86008E+13	5396.65	0.0282594	0.0270877	0.0687399	0.8743458	0.8380934	2.0949115	2.0949115
213	16:00.5 21:03.5	574347 574348	6.35303E+12 6.35303E+12	5.86008E+13 5.87322E+13	5399.98 5397.6	0.0282594	0.0272394 0.0269131	0.0687824 0.0685982	0.8743458 0.8743458	0.842787 0.8326913	2.0962041	2.0962041 2.0905929
214	26:07.8	574348 574348	6.35303E+12 6.35303E+12	5.87322E+13 5.87322E+13	5397.6	0.0282594	0.0269131	0.0685982	0.8743458	7.0305859	2.0905929	7.0305859
216	31:11.2	574349	6.35303E+12	5.84595E+13	5395.06	0.0282594	0.0368119	0.0688857	0.8743458	1.1389602	2.0993542	2.0993542
217	36:14.2	574350	6.35303E+12	5.91267E+13	5396.77	0.0282594	0.0273647	0.06813	0.8743458	0.8466638	2.0763241	2.0763241
218	41:17.0	574350	6.35303E+12	5.91267E+13	5395.88	0.0282594	0.0250754	0.0681188 0.0679751	0.8743458	0.7758329	2.0759816	2.0759816 2.0716025
219	46:20.3 51:23.3	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5395.8 5393.06	0.0282594 0.0282594	0.0257701 0.0249811	0.0679751	0.8743458 0.8743458	0.7973269 0.7729152	2.0716025 2.0705505	2.0716025
221	56:25.9	574351	6.35303E+12	5.92508E+13	5391.33	0.0282594	0.0252147	0.0679188	0.8743458	0.7801428	2.0698863	2.0698863
222	01:28.7	574351	6.35303E+12	5.92508E+13	5390.01	0.0294875	0.0252863	0.0679022	0.9123433	0.7823581	2.0693795	2.0693795
223	06:31.8 11:34.6	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5374.44 5371.81	0.0294875 0.0294875	0.0227695 0.0228204	0.067706 0.0676729	0.9123433 0.9123433	0.7044883 0.7060632	2.0634017	2.0634017 2.062392
225	16:37.4	574352	6.35303E+12	5.79249E+13	5372.6	0.0294875	0.024445	0.0692321	0.9123433	0.7563283	2.1099115	2.1099115
226	21:40.3	574353	6.35303E+12	5.95341E+13	5377.77	0.0294875	0.0231413	0.0674255	0.9123433	0.7159918	2.0548543	2.0548543
227	26:43.1	574353	6.35303E+12	5.95341E+13	5384.99	0.0294875	0.0250495	0.0675161	0.9123433	0.7750315	2.0576131	2.0576131
228	31:45.9 36:48.6	574353 574353	6.35303E+12 6.35303E+12	5.95341E+13 5.95341E+13	5393.61 5395.02	0.0294875 0.0294875	0.0254698 0.0254096	0.0676241 0.0676418	0.9123433 0.9123433	0.7880356 0.786173	2.0609068	2.0609068 2.0614455
230	41:51.5	574353	6.35303E+12	5.95341E+13	5401.49	0.0294875	0.0250828	0.0677229	0.9123433	0.7760618	2.0639177	2.0639177
231	46:55.3	574356	6.35303E+12	6.01278E+13	5393.39	0.0294875	0.0235193	0.0669538	0.9123433	0.7276871	2.0404768	2.0404768
232	51:58.7	574356	6.35303E+12	6.01278E+13	5401.9	0.0294875	0.0249891	0.0670594	0.9123433	0.7731628	2.0436963	2.0436963
233 234	57:01.6 02:04.6	574357 574357	6.35303E+12 6.35303E+12	5.98782E+13 5.98782E+13	5404.01 5410.44	0.0294875 0.0358722	0.0221317 0.021966	0.0673653 0.0674454	0.9123433 1.1098859	0.6847548 0.679628	2.0530169 2.0554597	2.0530169 2.0554597
235	07:08.5	574357	6.35303E+12	5.98782E+13	5413.48	0.0358722	0.0217579	0.0674833	1.1098859	0.6731894	2.0556147	2.0566147
236	12:11.9	574359	6.35303E+12	5.99023E+13	5412.99	0.0358722	0.0219837	0.0674501	1.1098859	0.6801757	2.0556012	2.0556012
237	17:15.2	574360	6.35303E+12	6.0023E+13	5413.64	0.0358722	0.0220791	0.0673224	1.1098859	0.6831274	2.0517109	2.0517109
238	22:18.3 27:22.6	574360 574360	6.35303E+12 6.35303E+12	6.0023E+13 6.0023E+13	5409.57 5403.2	0.0358722 0.0358722	0.0229158 0.0226755	0.0672718 0.0671926	1.1098859 1.1098859	0.7090149 0.70158	2.0501684	2.0501684 2.0477543
240	32:25.6	574361	6.35303E+12	5.95038E+13	5409.65	0.0358722	0.0247112	0.0678598	1.1098859	0.7645645	2.068088	2.068088
241	37:29.5	574361	6.35303E+12	5.95038E+13	5414.99	0.0358722	0.0361625	0.0679268	1.1098859	1.1188678	2.0701294	2.0701294
242	42:32.7	574362 574362	6.35303E+12 6.35303E+12	5.87448E+13 5.87448E+13	5422.88 5432.58	0.0358722 0.0358722	0.0240264 0.0226338	0.0689047 0.0690279	1.1098859	0.7433768 0.7002898	2.0999322	2.0999322 2.1036884
244	47:36.4 52:39.7	574362	6.35303E+12 6.35303E+12	5.87448E+13 5.87448E+13	5432.58	0.0358722	0.0226338	0.0689699	1.1098859 1.1098859	0.7002898	2.1036884	2.1036884
245	57:42.7	574363	6.35303E+12	5.80502E+13	5427.15	0.0358722	0.032838	0.0697841	1.1098859	1.0160077	2.1267343	2.1267343
246	02:45.9	574364	6.35303E+12	5.78645E+13	5427.23	0.0269724	0.048486	0.0700091	0.8345261	1.5001568	2.1335902	2.1335902
247 248	07:49.0 12:51.9	574364 574365	6.35303E+12 6.35303E+12	5.78645E+13 5.73396E+13	5441.99 5428.97	0.0269724 0.0269724	0.0436141 0.0245126	0.0701995 0.0706726	0.8345261 0.8345261	1.3494203 0.7584198	2.1393928 2.1538115	2.1393928 2.1538115
249	17:54.9	574367	6.35303E+12	5.84533E+13	5439.06	0.0269724	0.0248829	0.069455	0.8345261	0.7698769	2.1167024	2.1167024
250	22:58.1	574367	6.35303E+12	5.84533E+13	5434.48	0.0269724	0.023353	0.0693965	0.8345261	0.7225418	2.1149201	2.1149201
251	28:01.3	574368	6.35303E+12	5.81378E+13	5438.3	0.0269724	0.0216344	0.0698221	0.8345261	0.6693683	2.1278923	2.1278923
252 253	33:04.7 38:08.1	574368 574369	6.35303E+12 6.35303E+12	5.81378E+13 5.7527E+13	5439.66 5442.57	0.0269724 0.0269724	0.0213325 0.0208171	0.0698396 0.0706189	0.8345261 0.8345261	0.6600276 0.6440811	2.1284244 2.1521741	2.1284244 2.1521741
254	43:11.1	574370	6.35303E+12	5.73316E+13	5444.99	0.0269724	0.0208171	0.0708911	0.8345261	0.6240072	2.1521741	2.1521741
255	48:14.1	574370	6.35303E+12	5.73316E+13	5466.35	0.0269724	0.0200828	0.0711692	0.8345261	0.6213618	2.1689449	2.1689449
256	53:17.4	574370	6.35303E+12	5.73316E+13	5469.28	0.0269724	0.0197299	0.0712073 0.0709444	0.8345261	0.6104431	2.1701075	2.1701075 2.1620944
257 258	58:20.4 03:23.6	574373 574373	6.35303E+12 6.35303E+12	5.75391E+13 5.75391E+13	5468.81 5471.06	0.0269724 0.0207906	0.0200014 0.0196896	0.0709444 0.0709736	0.8345261 0.6432612	0.6188433 0.6091962	2.1620944 2.1629839	2.1620944 2.1629839
259	08:26.7	574374	6.35303E+12	5.70787E+13	5464.23	0.0207906	0.0194455	0.0714567	0.6432612	0.6016438	2.1023833	2.177708
260	13:29.7	574374	6.35303E+12	5.70787E+13	5456.01	0.0207906	0.0198243	0.0713492	0.6432612	0.6133638	2.1744321	2.1744321
261	23:35.9	574376 574276	6.35303E+12	5.68162E+13	5459.27	0.0207906 0.0207906	0.0215706 0.0196633	0.0717217	0.6432612	0.6673944	2.185782	2.185782 2.1838922
262 263	28:38.8 38:44.6	574376 574377	6.35303E+12 6.35303E+12	5.68162E+13 5.63276E+13	5454.55 5466.4	0.0207906	0.0196633	0.0716596 0.0724384	0.6432612 0.6432612	0.6083825 0.6841267	2.1838922 2.2076251	2.1838922
264	43:47.3	574377	6.35303E+12	5.63276E+13	5465.31	0.0207906	0.0214445	0.0724239	0.6432612	0.6634928	2.2071849	
265	48:50.6	574378	6.35303E+12	5.65074E+13	5471.97	0.0207906	0.0214515	0.0722814	0.6432612	0.6637094	2.2028417	2.2028417
266	53:53.3	574378	6.35303E+12	5.65074E+13	5467.7	0.0207906	0.0210118	0.072225	0.6432612	0.6501051	2.2011227	2.2011227
267 268	58:56.2 04:31.8	574379 574384	6.35303E+12 6.35303E+12	5.75462E+13 5.65611E+13	5464.7 5475.86	0.0207906 0.01793	0.019883 0.0189255	0.0708824 0.0722642	0.6432612 0.5547542	0.61518 0.585555	2.1602037 2.2023153	2.1602037 2.2023153
269	09:34.9	574384	6.35303E+12	5.65611E+13	5473.44	0.01793	0.0189255	0.0722322	0.5547542	0.5846484	2.2023133	2.2023133
270	14:37.8	574384	6.35303E+12	5.65611E+13	5475.01	0.01793	0.018951	0.0722529	0.5547542	0.5863439	2.2019735	2.2019735
271	19:40.7	574384	6.35303E+12	5.65611E+13	5478.95	0.01793	0.0186057	0.0723049	0.5547542	0.5756604	2.2035581	2.2035581
272 273	24:43.7 29:46.4	574384 574385	6.35303E+12 6.35303E+12	5.65611E+13 5.52675E+13	5485.86 5483.01	0.01793 0.01793	0.0184337 0.0180784	0.0723961 0.0740521	0.5547542 0.5547542	0.5703387 0.5593457	2.2063372 2.2568058	2.2063372 2.2568058
274	34:49.2	574386	6.35303E+12	5.5002E+13	5487.88	0.01793	0.0183673	0.0744757	0.5547542	0.5682843	2.2697143	2.2697143
275	39:52.0	574387	6.35303E+12	5.4816E+13	5489.7	0.01793	0.0188157	0.0747532	0.5547542	0.5821578	2.278171	2.278171
276	44:55.2	574387	6.35303E+12	5.4816E+13	5485.01	0.01793	0.0183954	0.0746893	0.5547542		2.2762247	2.2762247
277 278	49:58.0 55:00.7	574387 574387	6.35303E+12 6.35303E+12	5.4816E+13 5.4816E+13	5494.4 5492.41	0.01793 0.01793	0.0185406 0.018494	0.0748172 0.0747901	0.5547542 0.5547542	0.5736462 0.5722044	2.2801215 2.2792957	2.2801215 2.2792957
279	00:04.0	574388	6.35303E+12	5.41076E+13	5491.83	0.0169796	0.0185045	0.0757612	0.5253488	0.5725292	2.3088909	2.3088909
280	05:07.0	574388	6.35303E+12	5.41076E+13	5492.5	0.0169796	0.0185003	0.0757704	0.5253488	0.5723993	2.3091726	
281 282	10:10.3 15:13.1	574388 574390	6.35303E+12 6.35303E+12	5.41076E+13 5.36713E+13	5499.47 5499.81	0.0169796 0.0169796	0.0184926 0.0184921	0.0758666 0.0764881	0.5253488 0.5253488	0.572161 0.5721456	2.3121029	2.3121029 2.3310446
282	20:15.9	574390	6.35303E+12 6.35303E+12	5.36/13E+13 5.4543E+13	5532.69	0.0169796	0.0184921	0.0764881	0.5253488	0.5721456		2.3310446
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366 54:46.1 574442 6.35303E+12 5.28842E+13 5741.39 0.027778 0.0269661 0.0810363 0.8594513 0.8343311 2.4696537 2.4696537 367 59:49.2 574443 6.35303E+12 5.28228E+13 5739.18 0.027778 0.0256053 0.0810993 0.8594513 0.7990348 2.4715738 <td< td=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.5900343</td></td<>													2.5900343
367 59:49.2 574443 6.35303E+12 5.28228E+13 5739.18 0.027778 0.0258253 0.0810993 0.8594513 0.7990348 2.4715738 2.4715733 369 09:54.9 574443 6.35303E+12 5.28228E+13 5735.16 0.0303126 0.0260635 0.0810425 0.9378718 0.8064047 2.4698426 2.469842 369 09:54.9 574443 6.35303E+12 5.28228E+13 5753.15 0.0303126 0.0249105 0.0812967 0.9378718 0.7777399 2.47756 370 14:57.9 574443 6.35303E+12 5.28228E+13 5760.65 0.0303126 0.0251299 0.0814027 0.9378718 0.7775191 2.4808199 2.4808193 371 2.000.9 574443 6.35303E+12 5.28228E+13 5758.01 0.0303126 0.0252432 0.0813654 0.9378718 0.7877126 2.4796829 2.4796829 372 30:06.6 574445 6.35303E+12 5.17083E+13 5750.01 0.0303126 0.0282726 0.0828144 0.9378718													
368 04:52.0 574443 6.35303E+12 5.28228E+13 5735.16 0.0303126 0.0260635 0.0810425 0.9378718 0.8064047 2.4698426 2.4698426 369 09:54.9 574443 6.35303E+12 5.28228E+13 5753.15 0.0303126 0.0249105 0.0812967 0.9378718 0.7707309 2.47759 370 14:57.9 574443 6.35303E+12 5.28228E+13 5756.05 0.0303126 0.0251299 0.0814027 0.9378718 0.7777319 2.4808199 2.4808193 371 20:00.9 574443 6.35303E+12 5.28228E+13 5758.01 0.0303126 0.0254432 0.0813654 0.9378718 0.7872126 2.4796829 2.4896829 372 30:06.6 574445 6.35303E+12 5.19166E+13 5760.01 0.0303126 0.0254432 0.0813654 0.9378718 0.87752126 2.4796829 2.4796829 2.4796829 2.4796829 2.4796829 2.4796829 2.4796829 2.4796829 2.4801899 3.281649 0.9378718 0.87752126													2.4030337
370 14:57.9 574443 6.35303E+12 5.28228E+13 5760.65 0.0303126 0.0251299 0.0814027 0.9378718 0.7775191 2.4808199 2.4808193 371 20:00.9 574443 6.35303E+12 5.28228E+13 5758.01 0.0303126 0.0254432 0.0813654 0.9378718 0.7872126 2.4796829 2.4796829 372 30:06.6 5744445 6.35303E+12 5.19166E+13 5760.01 0.0303126 0.0282726 0.0828144 0.9378718 0.8747542 2.5238421 373 35:09.9 574446 6.35303E+12 5.17083E+13 5750.9 0.0303126 0.0284258 0.0830164 0.9378718 1.0778197 2.5299985 2.5299985 374 40:13.0 574446 6.35303E+12 5.17083E+13 5762.47 0.0303126 0.0280725 0.0831834 0.9378718 0.8685632 2.5350885 375 574446 6.35303E+12 5.17083E+13 5753.72 0.0303126 0.026925 0.0830571 0.9378718 0.8348231 2.5312392<	368	04:52.0		6.35303E+12	5.28228E+13	5735.16	0.0303126	0.0260635	0.0810425	0.9378718	0.8064047	2.4698426	2.4698426
371 20:00.9 574443 6.35303E+12 5.28228E+13 5758.01 0.0303126 0.0254432 0.0813654 0.9378718 0.7872126 2.4796829 2.4796829 372 30:06.6 574445 6.35303E+12 5.19166E+13 5760.01 0.0303126 0.0282726 0.0828144 0.9378718 0.8747542 2.5238421 2.5238421 373 35:09.9 574446 6.35303E+12 5.17083E+13 5750.9 0.0303126 0.0343358 0.0830164 0.9378718 1.0778197 2.5299928 2.5299938 374 40:13.0 574446 6.35303E+12 5.17083E+13 5762.47 0.0303126 0.0280725 0.0831834 0.9378718 0.8685632 2.5350885 2.5350885 375 45:15.9 574446 6.35303E+12 5.17083E+13 575.72 0.0303126 0.026982 0.0830571 0.9378718 0.8348231 2.5123292 2.5123596 376 50:18.7 574448 6.35303E+12 5.19511E+13 5754.06 0.0303126 0.026982 0.0826737													2.47759
372 30:06.6 574445 6.35303E+12 5.19166E+13 5760.01 0.0303126 0.0282726 0.0828144 0.9378718 0.8747542 2.5238421 2.5238421 373 35:09.9 574446 6.35303E+12 5.17083E+13 5750.9 0.0303126 0.0348358 0.0830164 0.9378718 1.0778197 2.5299988 374 40:13.0 574446 6.35303E+12 5.17083E+13 5762.47 0.0303126 0.0280725 0.0831834 0.9378718 0.8685632 2.5350885 2.5350885 375 45:15.9 574446 6.35303E+12 5.17083E+13 5753.72 0.0303126 0.026982 0.0830571 0.9378718 0.8348231 2.5312392 2.5312													
373 35:09.9 574446 6.35303E+12 5.17083E+13 5750.9 0.0303126 0.0348358 0.0830164 0.9378718 1.0778197 2.5299985 2.5299985 374 40:13.0 574446 6.35303E+12 5.17083E+13 5762.47 0.0303126 0.0280725 0.0831834 0.9378718 0.8685632 2.5350885 <t< td=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.5238421</td></t<>													2.5238421
375 45:15.9 574446 6.35303E+12 5.17083E+13 5753.72 0.0303126 0.026982 0.0830571 0.9378718 0.8348231 2.5312392 2.5312392 376 50:18.7 574448 6.35303E+12 5.19511E+13 5754.06 0.0303126 0.0268925 0.0826737 0.9378718 0.832054 2.5195561 2.5195561	373	35:09.9	574446	6.35303E+12	5.17083E+13	5750.9	0.0303126	0.0348358	0.0830164	0.9378718	1.0778197	2.5299985	2.5299985
376 50:18.7 574448 6.35303E+12 5.19511E+13 5754.06 0.0303126 0.0268925 0.0826737 0.9378718 0.832054 2.5195561 2.5195562													
													2.5312392

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	A	В	C	D	E	F	G	Н	1	J	K	L
1	datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
378	05:27.0	574448	6.35303E+12	5.19511E+13	5706.98	0.0294253	0.0253359	0.0819973	0.9104188	0.7838927	2.4989409	2.4989409
379	10:30.3	574449	6.35303E+12	5.17328E+13	5701.52	0.0294253	0.0259191	0.0822646	0.9104188	0.801937	2.5070865	2.5070865
380	15:33.5	574450	6.35303E+12	5.16724E+13	5720.36	0.0294253	0.0262614	0.0826329	0.9104188	0.8125277	2.5183117	2.5183117
38	20:36.3	574450	6.35303E+12	5.16724E+13	5715.9	0.0294253	0.0259411	0.0825685	0.9104188	0.8026176	2.5163482	2.5163482
382	25:39.3	574450	6.35303E+12	5.16724E+13	5710.01	0.0294253	0.02602	0.0824834	0.9104188	0.8050588	2.5137552	2.5137552
383	30:42.6	574450	6.35303E+12	5.16724E+13	5720.01	0.0294253	0.0257416	0.0826278	0.9104188	0.7964451	2.5181576	2.5181576
384	35:45.4	574450	6.35303E+12	5.16724E+13	5725.31	0.0294253	0.0263149	0.0827044	0.9104188	0.814183	2.5204908	2.5204908
38	40:48.2	574452	6.35303E+12	5.09821E+13	5714.39	0.0294253	0.0264506	0.0836643	0.9104188	0.8183816	2.5497457	2.5497457
386	45:51.1	574454	6.35303E+12	5.11925E+13	5720.01	0.0294253	0.0252602	0.0834024	0.9104188	0.7815506	2.5417623	2.5417623
383	50:54.1	574454	6.35303E+12	5.11925E+13	5704.48	0.0294253	0.0244985	0.0831759	0.9104188	0.7579836	2.5348614	2.5348614
388	55:57.1	574454	6.35303E+12	5.11925E+13	5713.35	0.0294253	0.0241693	0.0833053	0.9104188	0.7477981	2.5388029	2.5388029
389	00:59.9	574454	6.35303E+12	5.11925E+13	5714.69	0.0318592	0.0253433	0.0833248	0.9857236	0.7841217	2.5393983	2.5393983
390	06:03.5	574454	6.35303E+12	5.11925E+13	5710.33	0.0318592	0.0243257	0.0832612	0.9857236	0.7526372	2.5374609	2.5374609
39	11:07.4	574454	6.35303E+12	5.11925E+13	5705.52	0.0318592	0.0246413	0.0831911	0.9857236	0.7624018	2.5353235	2.5353235

Bearbox v Lancium
Trial Exhibit

TX920-6

1	A datetime	B block_height	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real_time_LMP	H breakeven_mining_cost	day_ahead_LMP_rev	real time LMP rev	K mining_rev	L realized rev
2	22:20.9	574204	6.35303E+12	5.38327E+13	5320.02	0.0054942	0.0058423	0.0737658	0.1699905	0.1807608	2.2480786	2.2480786
3	27:24.1 32:27.2	574204 574204	6.35303E+12	5.38327E+13	5320.01	0.0054942	0.0062269	0.0737656	0.1699905	0.1926603 0.1397158	2.2480744	2.2480744 2.24889
5	37:30.3	574204	6.35303E+12 6.35303E+12	5.38327E+13 5.30839E+13	5321.94 5321.95	0.0054942 0.0054942	0.0045157 0.0035338	0.0737924 0.0748335	0.1699905 0.1699905	0.1397158	2.24889	2.24889
6	42:33.3	574205	6.35303E+12	5.30839E+13	5326.19	0.0054942	0.002277	0.0748931	0.1699905	0.0704504	2.2824342	2.2824342
7	47:36.1	574206	6.35303E+12	5.44532E+13	5328.27	0.0054942	0.0051513	0.0730384	0.1699905	0.1593812	2.225912	2.225912
8	52:39.2 57:42.1	574206 574207	6.35303E+12 6.35303E+12	5.44532E+13 5.39845E+13	5328.65 5327.68	0.0054942 0.0054942	0.0072185 0.0010915	0.0730436 0.0736643	0.1699905 0.1699905	0.2233404 0.033771	2.2260707 2.2449863	2.2260707 2.2449863
10	02:45.4	574207	6.35303E+12	5.39845E+13	5327.22	0.0007072	0.0026959	0.073658	0.0218808	0.0834111	2.2447925	2.2447925
11	07:48.3	574208	6.35303E+12	5.34662E+13	5325.01	0.0007072	-0.0034108	0.0743412 0.0743412	0.0218808	-0.1055302	2.2656139 2.2656139	2.2656139
12	12:51.5 17:54.3	574208 574209	6.35303E+12 6.35303E+12	5.34662E+13 5.33477E+13	5325.01 5321.01	0.0007072 0.0007072	-0.0088288 0.0005301	0.0743412	0.0218808 0.0218808	-0.2731631 0.0164013	2.2656139	2.2656139 2.2689395
14	22:57.3	574209	6.35303E+12	5.33477E+13	5327.95	0.0007072	0.0007828	0.0745474	0.0218808	0.0242198	2.2718988	2.2718988
15	28:01.3	574211	6.35303E+12	5.42133E+13	5325.19	0.0007072	-0.0182739	0.0733191	0.0218808	-0.5653945	2.2344662	2.2344662
16 17	33:04.8 38:07.8	574212 574214	6.35303E+12 6.35303E+12	5.54528E+13 5.533E+13	5323.43 5323.35	0.0007072 0.0007072	-0.0301375 -0.0305618	0.0716566 0.0718145	0.0218808 0.0218808	-0.9324543 -0.9455821	2.1838 2.1886119	2.1838 2.1886119
18	43:10.7	574215	6.35303E+12	5.58834E+13	5323.1	0.0007072	-0.0284827	0.0711001	0.0218808	-0.8812547	2.1668382	2.1668382
19	48:13.5	574215	6.35303E+12	5.58834E+13	5326.55	0.0007072	-0.0254853	0.0711461	0.0218808	-0.7885152	2.1682425	2.1682425
20	53:16.6 58:19.3	574215 574216	6.35303E+12 6.35303E+12	5.58834E+13 5.54406E+13	5328.3 5326.69	0.0007072 0.0007072	-0.0291736 -0.0300521	0.0711695 0.0717163	0.0218808 0.0218808	-0.9026312 -0.929812	2.1689549 2.1856184	2.1689549 2.1856184
22	03:22.6	574216	6.35303E+12	5.54406E+13	5330.35	0.0001184	-0.0293821	0.0717656	0.0036633	-0.9090822	2.1871201	2.1871201
23	08:25.6	574218	6.35303E+12	5.58377E+13	5330.78	0.0001184	-0.0030017	0.071261	0.0036633	-0.0928726	2.1717421	2.1717421
24	13:28.5 18:31.4	574220 574220	6.35303E+12 6.35303E+12	5.59914E+13 5.59914E+13	5329.45 5348.41	0.0001184 0.0001184	-0.0183569 -0.0168349	0.0710476 0.0713003	0.0036633 0.0036633	-0.5679625 -0.5208718	2.1652392 2.1729422	2.1652392 2.1729422
26	23:34.2	574223	6.35303E+12	5.60912E+13	5338.35	0.0001184	-0.0262408	0.0710397	0.0036633	-0.8118904	2.164998	2.164998
27	28:37.1	574226	6.35303E+12	5.60441E+13	5328.39	0.0001184	-0.0286978	0.0709666	0.0036633	-0.8879099	2.1627725	2.1627725
28 29	33:39.9 38:43.2	574226 574227	6.35303E+12 6.35303E+12	5.60441E+13 5.56725E+13	5333.1 5332.07	0.0001184 0.0001184	-0.0249271 -0.0184168	0.0710294 0.0714897	0.0036633 0.0036633	-0.7712445 -0.5698158	2.1646843 2.1787132	2.1646843 2.1787132
30	43:45.9	574227	6.35303E+12	5.56725E+13	5339.02	0.0001184	-0.0190364	0.0715829	0.0036633	-0.5889862	2.181553	2.181553
31	48:49.2	574228	6.35303E+12	5.52451E+13	5343.15	0.0001184	-0.0188272	0.0721925	0.0036633	-0.5825136	2.2001303	2.2001303
32	53:52.1 58:55.4	574229 574229	6.35303E+12 6.35303E+12	5.5892E+13 5.5892E+13	5338.61 5336.51	0.0001184 0.0001184	-0.0278877 -0.0228802	0.0712963 0.0712682	0.0036633 0.0036633	-0.8628454 -0.7079134	2.1728179 2.1719632	2.1728179 2.1719632
34	03:58.2	574229	6.35303E+12	5.5892E+13	5340.15	4.90E-06	-0.0228802	0.0712082	0.0001516	-0.5669446	2.1734447	2.1734447
35	09:01.3	574229	6.35303E+12	5.5892E+13	5341.69	4.90E-06	-0.0302504	0.0713374	0.0001516	-0.9359474	2.1740715	2.1740715
36 37	14:04.8 19:07.8	574230 574230	6.35303E+12 6.35303E+12	5.53347E+13 5.53347E+13	5346.1 5347.19	4.90E-06 4.90E-06	-0.0297233 -0.0295915	0.0721153 0.07213	0.0001516 0.0001516	-0.9196389 -0.915561	2.1977795 2.1982276	2.1977795 2.1982276
38	24:10.8	574231	6.35303E+12	5.49411E+13	5341.77	4.90E-06	-0.0275611	0.0725732	0.0001516	-0.8527404	2.2117345	2.2117345
39	29:13.7	574231	6.35303E+12	5.49411E+13	5342.48	4.90E-06	-0.0276163	0.0725829	0.0001516	-0.8544483	2.2120284	2.2120284
40	34:16.7 39:19.5	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5349.99 5346.06	4.90E-06 4.90E-06	-0.0261726 -0.0268168	0.0729971 0.0729435	0.0001516 0.0001516	-0.8097802 -0.8297118	2.2246529 2.2230187	2.2246529 2.2230187
42	44:22.9	574232	6.35303E+12	5.47061E+13	5350.69	4.90E-06	-0.027105	0.0730067	0.0001516	-0.8386287	2.224944	2.224944
43	49:25.9	574232	6.35303E+12	5.47061E+13	5361.36	4.90E-06	-0.0282087	0.0731523	0.0001516	-0.8727772	2.2293808	2.2293808
44	54:28.5 59:31.3	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5358.36 5369.47	4.90E-06 4.90E-06	-0.0275544 -0.025414	0.0731113 0.0732629	0.0001516 0.0001516	-0.8525331 -0.7863092	2.2281334	2.2281334 2.2327532
46	04:34.2	574233	6.35303E+12	5.35475E+13	5382.49	0.0022439	-0.0254873	0.0750295	0.0694263	-0.7885771	2.2865921	2.2865921
47	09:37.0	574233	6.35303E+12	5.35475E+13	5358.81	0.0022439	-0.0031512	0.0746994	0.0694263	-0.0974981	2.2765324	2.2765324
48 49	14:39.6 19:42.4	574233 574233	6.35303E+12 6.35303E+12	5.35475E+13 5.35475E+13	5359.15 5359.66	0.0022439	-0.0011741 -0.0181019	0.0747042 0.0747113	0.0694263 0.0694263	-0.0363267 -0.5600728	2.2766768 2.2768935	2.2766768 2.2768935
50	24:45.0	574234	6.35303E+12	5.31615E+13	5358.18	0.0022439	-0.0021049	0.075233	0.0694263	-0.0651256	2.2927926	2.2927926
51	29:47.7	574234	6.35303E+12	5.31615E+13	5351.99	0.0022439	-0.0142703	0.0751461	0.0694263	-0.4415231	2.2901439	2.2901439
52 53	34:50.4 39:53.2	574234 574236	6.35303E+12 6.35303E+12	5.31615E+13 5.29706E+13	5344.84 5349.94	0.0022439 0.0022439	-0.003526 -0.0156274	0.0750457 0.075388	0.0694263 0.0694263	-0.1090944 -0.4835118	2.2870844 2.2975179	2.2870844 2.2975179
54	44:56.5	574237	6.35303E+12	5.26741E+13	5348.56	0.0022439	-0.0298903	0.0757929	0.0694263	-0.9248059	2.3098563	2.3098563
55 56	49:59.5	574238	6.35303E+12	5.2719E+13	5357.05	0.0022439	-0.0286539	0.0758485 0.0757736	0.0694263	-0.8865517	2.3115503	2.3115503
57	55:02.4 00:05.4	574238 574239	6.35303E+12 6.35303E+12	5.2719E+13 5.28168E+13	5351.76 5350.18	0.0022439 0.0110575	-0.00581 -0.0017958	0.0756109	0.0694263 0.342119	-0.1797614 -0.0555621	2.3092677 2.3043114	2.3092677 2.3043114
58	05:08.0	574239	6.35303E+12	5.28168E+13	5347.41	0.0110575	-0.0296719	0.0755718	0.342119	-0.9180486	2.3031184	2.3031184
59 60	10:10.8 15:13.5	574240 574243	6.35303E+12 6.35303E+12	5.25658E+13 5.35108E+13	5348.27 5354.34	0.0110575 0.0110575	-0.0286608 -0.000324	0.0759448 0.0746884	0.342119 0.342119	-0.8867652 -0.0100246	2.314487	2.314487 2.2761958
61	20:16.2		6.35303E+12	5.38531E+13	5358.41	0.0110575	0.0006207	0.074084	0.342119	0.0192045	2.2634449	2.2634449
62	25:18.9	574245	6.35303E+12	5.38531E+13	5356.02	0.0110575	-0.0034312	0.0742369	0.342119	-0.1061613	2.2624353	2.2624353
63 64	30:21.7 35:24.4	574246 574246		5.41667E+13 5.41667E+13	5359.34 5361.98	0.0110575 0.0110575	-0.001958 0.0041538	0.0738528 0.0738892	0.342119 0.342119	-0.0605805 0.1285186	2.2507317 2.2518404	2.2507317 2.2518404
65	40:27.4	574246		5.41667E+13	5366.53	0.0110575	-0.0150598	0.0738892	0.342119	-0.4659502	2.2537513	2.2518404
66	45:30.2	574248		5.41479E+13	5365.93	0.0110575	-0.0019635	0.0739693	0.342119	-0.0607507	2.2542821	2.2542821
67 68	50:33.1 55:35.9	574251 574251	6.35303E+12 6.35303E+12	5.52479E+13 5.52479E+13	5359.19 5360.66	0.0110575 0.0110575	0.0009998 0.0009997	0.0724055 0.0724254	0.342119 0.342119	0.0309338 0.0309307	2.2066234 2.2072286	2.2066234 2.2072286
69	00:38.6	574252	6.35303E+12	5.50584E+13	5358.27	0.0155437	0.004066	0.0726423	0.4809221	0.125802	2.2138386	2.2138386
70	05:43.2	574252	6.35303E+12	5.50584E+13	5360.85	0.0155437	0.1479624	0.0726772	0.4809221	4.5779567	2.2149045	4.5779567
71 72	10:46.3 15:49.2	574253 574255		5.55506E+13 5.5978E+13	5361.66 5358.19	0.0155437 0.0155437	0.012018 0.0085462	0.0720441 0.0714478	0.4809221 0.4809221	0.3718369 0.2644194	2.1956089 2.1774367	2.1956089 2.1774367
73	20:52.2	574256	6.35303E+12	5.57331E+13	5364.52	0.0155437	0.0091729	0.0718465	0.4809221	0.2838095	2.1895872	2.1895872
74	25:55.1	574257		5.59531E+13	5368.93	0.0155437	0.0070653	0.0716229	0.4809221	0.2186004	2.182771	2.182771
75 76	30:57.9 36:00.9	574257 574257		5.59531E+13 5.59531E+13	5369.93 5368.01	0.0155437 0.0155437	0.0057038 0.0056384	0.0716362 0.0716106	0.4809221 0.4809221	0.1764756 0.1744521	2.1831776 2.182397	2.1831776 2.182397
77	41:04.6	574258	6.35303E+12	5.61961E+13	5363.48	0.0155437	0.0066693	0.0712408	0.4809221	0.2063481	2.1711281	2.1711281
78	46:07.7	574258		5.61961E+13	5363.48	0.0155437	0.0064452	0.0712408	0.4809221	0.1994145	2.1711281	2.1711281
79 80	51:10.7 56:17.1	574258 574258		5.61961E+13 5.61961E+13	5363.48 5368.91	0.0155437 0.0155437	0.006606 0.0080226	0.0712408 0.0713129	0.4809221 0.4809221	0.2043896 0.2482192	2.1711281 2.1733261	2.1711281 2.1733261
81	01:19.9	574258	6.35303E+12	5.61961E+13	5365.45	0.0157861	0.0085946	0.071267	0.4884219	0.2659169	2.1719255	2.1719255
82	06:22.6	574258		5.61961E+13	5361.34	0.0157861	0.0124213	0.0712124	0.4884219	0.384315	2.1702618	2.1702618
83	11:25.7 16:28.4	574259 574260		5.4583E+13 5.46276E+13	5360.85 5368.73	0.0157861 0.0157861	0.0100146 0.007654	0.0733103 0.0733581	0.4884219 0.4884219	0.3098517 0.2368148	2.2341966 2.2356531	2.2341966 2.2356531
85	21:31.1	574260	6.35303E+12	5.46276E+13	5368.72	0.0157861	0.0073542	0.0733579	0.4884219	0.2275389	2.2356489	2.2356489
86	26:34.2	574260		5.46276E+13	5367.86	0.0157861	0.0065783	0.0733462	0.4884219	0.2035326	2.2352908	2.2352908
87 88	31:37.2 36:43.9	574260 574261		5.46276E+13 5.36607E+13	5369.51 5367.41	0.0157861 0.0157861	0.0072755 0.0067775	0.0733687 0.0746615	0.4884219 0.4884219	0.225104 0.2096959	2.2359779 2.2753756	2.2359779 2.2753756
89	41:47.1	574261		5.36607E+13	5361.03	0.0157861	0.007773	0.0745727	0.4884219	0.2335537	2.2726709	2.2726709
90	46:49.9	574261		5.36607E+13	5363.23	0.0157861	0.007421	0.0746033	0.4884219	0.2296057	2.2736036	2.2736036
91 92	51:52.9 56:56.1	574261 574262	6.35303E+12 6.35303E+12	5.36607E+13 5.24328E+13	5367.99 5378.51	0.0157861 0.0157861	0.0094254 0.0074337	0.0746695 0.076568	0.4884219 0.4884219	0.2916219 0.2299987	2.2756214 2.3334773	2.2756214 2.3334773
93	01:58.9	574266		5.51716E+13	5368.99	0.0175072	0.0070568	0.0726383	0.5416728	0.2183374	2.2137171	2.2137171
94	07:01.5	574268		5.60115E+13	5366.55	0.0175072	0.0067409	0.0715165	0.5416728	0.2085634	2.1795291	2.1795291
95	12:04.4	574269	6.35303E+12	5.58958E+13	5356.64	0.0175072	0.0075027	0.0715322	0.5416728	0.2321335	2.1800073	2.1800073

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1	A datetime b	B block_height i	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	H breakeven_mining_cost	l day_ahead_LMP_rev	real time LMP rev	K mining_rev	L realized rev
96	17:07.9	574270	6.35303E+12	5.6144E+13	5353.05	0.0175072	0.0070444	0.0711682	0.5416728	0.2179537	2.1689142	2.1689142
97	22:10.7	574271	6.35303E+12	5.6095E+13	5352.41	0.0175072	0.0068769	0.0712219	0.5416728	0.2127713	2.1705513	2.1705513
98	27:13.7	574271	6.35303E+12	5.6095E+13	5350.73	0.0175072	0.0068185	0.0711995	0.5416728	0.2109644	2.1698701	2.1698701
99 100	32:17.1 37:20.0	574271 574273	6.35303E+12 6.35303E+12	5.6095E+13 5.53104E+13	5352.02 5353.7	0.0175072 0.0175072	0.0070024 0.0074003	0.0712167 0.0722496	0.5416728 0.5416728	0.2166543 0.2289653	2.1703932 2.2018709	2.1703932 2.2018709
101	42:23.0	574273	6.35303E+12	5.53104E+13	5354.2	0.0175072	0.0074003	0.0722563	0.5416728	0.2897253	2.2018709	2.2018709
102	47:25.7	574274	6.35303E+12	5.53441E+13	5354.14	0.0175072	0.0106524	0.0722116	0.5416728	0.3295853	2.2007128	2.2007128
103	52:29.0	574274	6.35303E+12	5.53441E+13	5355.15	0.0175072	0.0155577	0.0722252	0.5416728	0.4813552	2.2011279	2.2011279
104 105	57:31.7 02:34.7	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5366.51 5367.34	0.0175072 0.0201513	0.0134928 0.0088181	0.0723784 0.0723896	0.5416728 0.6234812	0.4174672 0.272832	2.2057972 2.2061384	2.2057972 2.2061384
106	07:37.6	574274	6.35303E+12	5.53441E+13 5.53441E+13	5367.34	0.0201513	0.0088181	0.0723896	0.6234812	0.272832	2.2061384	2.2061384
107	12:40.5	574274	6.35303E+12	5.53441E+13	5361.12	0.0201513	0.0141938	0.0723057	0.6234812	0.4391562	2.2035818	2.2035818
108	17:43.1	574274	6.35303E+12	5.53441E+13	5366.11	0.0201513	0.0148287	0.072373	0.6234812	0.4588	2.2056328	2.2056328
109 110	22:45.8 27:48.5	574275 574275	6.35303E+12 6.35303E+12	5.36343E+13 5.36343E+13	5369.98 5368.01	0.0201513 0.0201513	0.0148955 0.0147788	0.0747339 0.0747065	0.6234812 0.6234812	0.4608668 0.4572561	2.2775843	2.2775843 2.2767487
111	32:51.2	574277	6.35303E+12	5.50543E+13	5373.94	0.0201513	0.0147788	0.0728657	0.6234812	0.4372361	2.2206488	2.2206488
112	37:54.0	574279	6.35303E+12	5.54528E+13	5377.71	0.0201513	0.0181814	0.0723873	0.6234812	0.5625325	2.2060669	2.2060669
113	42:56.7	574281	6.35303E+12	5.67946E+13	5384.52	0.0201513	0.016267	0.0707666	0.6234812	0.503301	2.1566766	2.1566766
114 115	47:59.4	574281 574282	6.35303E+12	5.67946E+13	5380.73	0.0201513 0.0201513	0.0160892	0.0707168 0.0715284	0.6234812	0.4977998 0.3855836	2.1551586 2.1798939	2.1551586 2.1798939
116	53:02.7 58:06.1	574282	6.35303E+12 6.35303E+12	5.6096E+13 5.6096E+13	5375.54 5378.27	0.0201513	0.0124623 0.0169571	0.0715648	0.6234812 0.6234812	0.5246527	2.1798939	2.1810009
117	03:10.1	574283	6.35303E+12	5.56063E+13	5389.1	0.0221974	0.0169284	0.0723403	0.6867876	0.5237647	2.2046367	2.2046367
118	08:13.3	574283	6.35303E+12	5.56063E+13	5401.6	0.0221974	0.0188882	0.0725081	0.6867876	0.5844009	2.2097504	2.2097504
119 120	13:16.5 18:19.3	574283 574284	6.35303E+12 6.35303E+12	5.56063E+13 5.64188E+13	5411.61 5399.02	0.0221974 0.0221974	0.0187623 0.0199987	0.0726425 0.0714298	0.6867876 0.6867876	0.5805056 0.6187598	2.2138454 2.1768876	2.2138454 2.1768876
121	18:19.3	574284	6.35303E+12 6.35303E+12	5.64188E+13 5.64188E+13	5401.6	0.0221974	0.0199987	0.0714298	0.6867876	0.6187598	2.1768876	2.1768876
122	28:25.0	574284	6.35303E+12	5.64188E+13	5405.99	0.0221974	0.0190804	0.071522	0.6867876	0.5903476	2.1796979	2.1796979
123	33:27.8	574285	6.35303E+12	5.57835E+13	5406.94	0.0221974	0.0194306	0.0723493	0.6867876	0.6011828	2.2049105	2.2049105
124 125	38:30.5	574285	6.35303E+12	5.57835E+13	5401.12	0.0221974	0.0186435	0.0722714	0.6867876	0.5768299	2.2025372 2.2037157	2.2025372
125	43:34.1 48:36.8	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5404.01 5404.26	0.0221974 0.0221974	0.0194016 0.0191729	0.0723101 0.0723135	0.6867876 0.6867876	0.6002855 0.5932095	2.203/15/	2.2037157 2.2038176
127	53:39.9	574285	6.35303E+12	5.57835E+13	5400.01	0.0221974	0.0194297	0.0722566	0.6867876	0.6011549	2.2020845	2.2020845
128	03:46.2	574285	6.35303E+12	5.57835E+13	5405.7	0.0234026	0.0195553	0.0723327	0.7240764	0.605041	2.2044049	2.2044049
129 130	08:49.1 13:52.7	574286 574287	6.35303E+12 6.35303E+12	5.36818E+13 5.50908E+13	5416.95 5406.6	0.0234026 0.0234026	0.0197148 0.0197013	0.0753209 0.0732543	0.7240764 0.7240764	0.6099759 0.6095582	2.2954736 2.2324921	2.2954736 2.2324921
131	18:55.9	574287	6.35303E+12	5.50908E+13	5394.62	0.0234026	0.0196918	0.0732943	0.7240764	0.6092643	2.2275453	2.2275453
132	23:59.1	574288	6.35303E+12	5.6446E+13	5372.85	0.0234026	0.0197114	0.0710493	0.7240764	0.6098707	2.1652907	2.1652907
133	29:02.3	574288	6.35303E+12	5.6446E+13	5385.99	0.0234026	0.0197446	0.071223	0.7240764	0.6108979	2.1705862	2.1705862
134 135	34:05.2 39:08.3	574289 574289	6.35303E+12 6.35303E+12	5.61643E+13 5.61643E+13	5382.26 5380.01	0.0234026 0.0234026	0.0207871 0.0209181	0.0715308 0.0715009	0.7240764 0.7240764	0.6431529 0.647206	2.1799641 2.1790528	2.1799641 2.1790528
136	44:11.8	574289	6.35303E+12	5.61643E+13	5375.01	0.0234026	0.0204072	0.0714344	0.7240764	0.6313988	2.1770277	2.1770277
137	49:15.0	574290	6.35303E+12	5.56905E+13	5379.99	0.0234026	0.020967	0.0721089	0.7240764	0.648719	2.1975834	2.1975834
138 139	54:18.0 59:20.8	574292 574293	6.35303E+12 6.35303E+12	5.59818E+13 5.63654E+13	5380.19 5377.35	0.0234026 0.0234026	0.0210779 0.0210797	0.0717363 0.0712105	0.7240764 0.7240764	0.6521502 0.6522059	2.1862275 2.1702049	2.1862275 2.1702049
140	09:26.9	574295	6.35303E+12	5.71185E+13	5388.44	0.0234020	0.0208048	0.0704165	0.7635064	0.6437005	2.1460054	2.1460054
141	14:29.9	574298	6.35303E+12	5.77593E+13	5389.19	0.024677	0.0209776	0.0696449	0.7635064	0.6490469	2.122492	2.122492
142	19:32.9	574298	6.35303E+12	5.77593E+13	5388.39	0.024677	0.0233134	0.0696346	0.7635064	0.7213166	2.122177	2.122177
143 144	24:36.5	574298 574298	6.35303E+12 6.35303E+12	5.77593E+13 5.77593E+13	5391.23 5399.68	0.024677 0.024677	0.0216334 0.0249963	0.0696713 0.0697805	0.7635064 0.7635064	0.6693374 0.7733855	2.1232955 2.1266234	2.1232955 2.1266234
145	34:42.6	574300	6.35303E+12	5.74492E+13	5391.27	0.024677	0.02573	0.0700479	0.7635064	0.7960862	2.1347724	2.1347724
146	39:48.1	574301	6.35303E+12	5.7613E+13	5391.51	0.024677	0.0821753	0.0698519	0.7635064	2.5425038	2.1287995	2.5425038
147 148	44:52.1 49:55.9	574302 574302	6.35303E+12 6.35303E+12	5.77583E+13 5.77583E+13	5394.15 5395.41	0.024677 0.024677	0.2145119 0.1523162	0.0697103 0.0697265	0.7635064 0.7635064	6.6369982 4.7126632	2.124483 2.1249792	6.6369982 4.7126632
149	54:59.6	574304	6.35303E+12	5.7411E+13	5395.41	0.024677	0.1730318	0.0701433	0.7635064	5.3536039	2.1249792	5.3536039
150	00:04.8	574305	6.35303E+12	5.8471E+13	5392.07	0.0272334	0.1708133	0.068834	0.8426014	5.2849635	2.0977787	5.2849635
151	05:08.7	574305	6.35303E+12	5.8471E+13	5393.61	0.0272334	0.2130182	0.0688537	0.8426014	6.5907831	2.0983778	6.5907831
152 153	10:11.7 20:17.3	574305 574309	6.35303E+12 6.35303E+12	5.8471E+13 6.00748E+13	5393.59 5397.01	0.0272334 0.0272334	0.03673 0.0252878	0.0688534 0.0670578	0.8426014 0.8426014	1.1364262 0.7824045	2.09837 2.0436461	2.09837 2.0436461
154	25:20.4	574309	6.35303E+12	6.00748E+13	5396.19	0.0272334	0.02513	0.0670476	0.8426014	0.7775222	2.0433356	2.0433356
155	30:23.2		6.35303E+12	6.02983E+13	5397.48	0.0272334	0.029264	0.0668151	0.8426014	0.9054282	2.0362495	2.0362495
156 157	35:25.9 40:29.3	574311 574312	6.35303E+12 6.35303E+12	6.01255E+13 5.99055E+13	5402.84 5397.41	0.0272334 0.0272334	0.0292724 0.0293249	0.0670736 0.0672522	0.8426014 0.8426014	0.9056881 0.9073124	2.044127 2.0495721	2.044127 2.0495721
158	45:32.2	574312	6.35303E+12	5.99055E+13	5395.01	0.0272334	0.0252257	0.0672223	0.8426014	0.7804832	2.0493721	2.0495721
159	50:35.3	574314	6.35303E+12	5.98595E+13	5392.41	0.0272334	0.02791	0.0672416	0.8426014	0.8635354	2.0492469	2.0492469
160	55:38.1	574315	6.35303E+12	5.97623E+13	5391.82	0.0272334	0.025482	0.0673436	0.8426014	0.7884131	2.0523565	2.0523565
161 162	00:42.4 05:45.3	574315 574317	6.35303E+12 6.35303E+12	5.97623E+13 6.04051E+13	5387.9 5388.49	0.0290471 0.0290471	0.2072917 0.0266619	0.0672946 0.0665859	0.8987173 0.8987173	6.4136052 0.8249192	2.0508644 2.0292641	6.4136052 2.0292641
163	10:49.2	574319	6.35303E+12	6.0775E+13	5387.98	0.0290471	0.2202776	0.0661742	0.8987173	6.8153889	2.0232041	6.8153889
164	20:54.5	574320	6.35303E+12	6.21737E+13	5399.05	0.0290471	0.0363805	0.0648185	0.8987173	1.1256127	1.9754023	1.9754023
165	25:57.3	574320	6.35303E+12	6.21737E+13	5405.74	0.0290471	0.0298668	0.0648988	0.8987173	0.9240788	1.97785	1.97785
166 167	31:00.3 36:03.1	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5405.41 5401.49	0.0290471 0.0290471	0.027565 0.0274552	0.0653138 0.0652665	0.8987173 0.8987173	0.8528611 0.8494639	1.9904973 1.9890538	1.9904973 1.9890538
168	41:06.0	574321	6.35303E+12	6.17749E+13	5409.99	0.0290471	0.0270176	0.0653692	0.8987173	0.8359245		1.9921839
169	46:08.7	574321	6.35303E+12	6.17749E+13	5408.8	0.0290471	0.0271924	0.0653548	0.8987173	0.8413329		1.9917457
170 171	51:11.6 56:14.3	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5412.57 5407.34	0.0290471 0.0290471	0.0272177 0.0261354	0.0654003 0.0653371	0.8987173 0.8987173	0.8421156 0.8086293	1.9931339 1.991208	1.9931339 1.991208
171	01:17.2	574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5407.34	0.0290471	0.0261354	0.0653371	0.8987173	0.8086293	1.991208	1.991208
173	06:20.9	574321	6.35303E+12	6.17749E+13	5395.3	0.0285414	0.0262962	0.0651917	0.8830709	0.8136044	1.9867744	1.9867744
174	11:24.4	574321	6.35303E+12	6.17749E+13	5397.81	0.0285414	0.0260871	0.065222	0.8830709	0.8071349	1.9876987	1.9876987
175 176	16:27.4 21:30.3	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5397.93 5392.62	0.0285414 0.0285414	0.026146 0.0262574	0.0652234 0.0651593	0.8830709 0.8830709	0.8089572 0.812404	1.9877429 1.9857875	1.9877429 1.9857875
177	26:33.0	574321	6.35303E+12	6.17749E+13	5392.62	0.0285414	0.0262574	0.0651746	0.8830709	0.8091243	1.9857875	1.9857875
178	31:35.8	574322	6.35303E+12	5.8824E+13	5396.27	0.0285414	0.0261091	0.0684743	0.8830709	0.8078156	2.0868162	2.0868162
179	36:38.8	574322	6.35303E+12	5.8824E+13	5393.1	0.0285414	0.0254329	0.0684341	0.8830709	0.7868939		2.0855903
180 181	41:41.8 46:44.7	574322 574323	6.35303E+12 6.35303E+12	5.8824E+13 5.85421E+13	5393.7 5398.48	0.0285414 0.0285414	0.0267382 0.0260142	0.0684417 0.0688322	0.8830709 0.8830709	0.8272799 0.8048793	2.0858223 2.0977221	2.0858223 2.0977221
182	51:47.6	574323	6.35303E+12	5.85421E+13 5.85421E+13	5406.39	0.0285414	0.0260142	0.068933	0.8830709	0.8317971	2.1007958	2.1007958
183	56:50.6	574324	6.35303E+12	5.81584E+13	5403.98	0.0285414	0.0295804	0.0693569	0.8830709	0.9152176	2.1137127	2.1137127
184	01:53.4	574326	6.35303E+12	5.98016E+13	5406.62	0.029578	0.0350032	0.0674841	0.9151433	1.082999	2.0566378	2.0566378
185 186	06:56.4 11:59.3	574326 574327	6.35303E+12 6.35303E+12	5.98016E+13 5.96067E+13	5402.77 5401.77	0.029578 0.029578	0.028005 0.0268725	0.067436 0.067644	0.9151433 0.9151433	0.8664747 0.8314352	2.0551733 2.0615104	2.0551733 2.0615104
187	17:02.0	574327	6.35303E+12	5.96067E+13	5403.81	0.029578	0.0251518	0.0676695	0.9151433	0.7781967	2.0622889	2.0622889
188	22:04.9	574328	6.35303E+12	5.96752E+13	5405.43	0.029578	0.0265695	0.0676122	0.9151433	0.8220603	2.0605413	2.0605413
189	27:08.1	574328	6.35303E+12	5.96752E+13	5405.62	0.029578	0.0263765	0.0676145	0.9151433	0.8160889	2.0606137	2.0606137

1	A datetime b	B olock_height	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	hroakovon mining cost	l day_ahead_LMP_rev	real time LMP rev	K mining rov	L realized rev
190	32:11.0	574329	6.35303E+12	5.94855E+13	5414.16	0.029578	0.0265315	breakeven_mining_cost 0.0679373	0.9151433	0.8208846	mining_rev 2.0704516	2.0704516
191	37:14.1	574330	6.35303E+12	5.97035E+13	5414.16	0.029578	0.0264993	0.0676893	0.9151433	0.8198883	2.0628912	2.0628912
192	52:22.4	574333	6.35303E+12	5.9734E+13	5406.27	0.029578	0.0263688	0.0675561	0.9151433	0.8158507	2.0588333	2.0588333
193 194	02:28.0 07:31.0	574334 574335	6.35303E+12 6.35303E+12	5.92562E+13 5.9018E+13	5400.02 5400.05	0.028458 0.028458	0.0275794 0.0264065	0.0680221 0.068297	0.8804905 0.8804905	0.8533066 0.8170171	2.0730351 2.0814126	2.0730351 2.0814126
195	12:34.3	574337	6.35303E+12	6.04407E+13	5403.81	0.028458	0.0264328	0.0667358	0.8804905	0.8178308	2.0338321	2.0338321
196	17:37.3	574338	6.35303E+12	6.00814E+13	5403.9	0.028458	0.0262088	0.067136	0.8804905	0.8109003	2.0460298	2.0460298
197 198	22:40.4 27:43.7	574340 574342	6.35303E+12 6.35303E+12	6.01388E+13 6.0482E+13	5404.53 5405.01	0.028458 0.028458	0.0258082 0.0262698	0.0670798 0.066705	0.8804905 0.8804905	0.7985057 0.8127876	2.0443159 2.0328944	2.0443159 2.0328944
199	32:46.8	574342	6.35303E+12	6.0482E+13	5405.02	0.028458	0.0252935	0.0667051	0.8804905	0.7825809	2.0328982	2.0328982
200	37:49.9	574343	6.35303E+12	5.99395E+13	5399.97	0.028458	0.02589	0.067246	0.8804905	0.8010366	2.0493813	2.0493813
201	42:52.7	574344	6.35303E+12	5.95861E+13	5399.01	0.028458 0.028458	0.0257766	0.0676328	0.8804905	0.797528	2.0611697	2.0611697
202	47:55.6 58:00.7	574344 574344	6.35303E+12 6.35303E+12	5.95861E+13 5.95861E+13	5399.01 5398.35	0.028458	0.0264346 0.0259627	0.0676328 0.0676245	0.8804905 0.8804905	0.8178865 0.8032859	2.0611697 2.0609177	2.0611697 2.0609177
204	03:05.1	574346	6.35303E+12	5.84022E+13	5395.14	0.0276119	0.2213191	0.0689544	0.8543122	6.847613	2.1014468	6.847613
205	08:08.7	574347	6.35303E+12	5.86008E+13	5392.22	0.0276119	0.0261815	0.0686835	0.8543122	0.8100556	2.0931918	2.0931918
206	23:17.2 28:21.2	574348 574349	6.35303E+12 6.35303E+12	5.87322E+13 5.84595E+13	5396.18 5396.23	0.0276119 0.0276119	0.0261474 0.220695	0.0685802 0.0689007	0.8543122 0.8543122	0.8090006 6.8283033	2.0900429	2.0900429 6.8283033
208	33:24.2	574349	6.35303E+12	5.84595E+13	5395.06	0.0276119	0.0357404	0.0688857	0.8543122	1.105808	2.0993542	2.0993542
209	38:27.1	574350	6.35303E+12	5.91267E+13	5395.03	0.0276119	0.0265231	0.0681081	0.8543122	0.8206247	2.0756546	2.0756546
210	43:30.0	574351	6.35303E+12	5.92508E+13	5395.02	0.0276119	0.024313	0.0679653	0.8543122	0.7522442	2.071303	2.071303
212	48:32.9 53:35.7	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5394.15 5390.52	0.0276119 0.0276119	0.0250697 0.0242897	0.0679543 0.0679086	0.8543122 0.8543122	0.7756565 0.7515233	2.070969 2.0695753	2.070969 2.0695753
213	58:38.6	574351	6.35303E+12	5.92508E+13	5391.4	0.0276119	0.0244875	0.0679197	0.8543122	0.7576432	2.0699132	2.0699132
214	03:41.5	574351	6.35303E+12	5.92508E+13	5383.02	0.0288024	0.0245448	0.0678141	0.8911463	0.7594161	2.0666958	2.0666958
215 216	08:44.3 13:47.2	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5371.99 5376.84	0.0288024 0.0288024	0.0220851 0.0221515	0.0676752 0.0677362	0.8911463 0.8911463	0.683313 0.6853674	2.0624611 2.0643232	2.0624611 2.0643232
217	18:50.0	574353	6.35303E+12	5.95341E+13	5376.84	0.0288024	0.0221515	0.0673622	0.8911463	0.7333368	2.0529247	2.0529247
218	23:53.2	574353	6.35303E+12	5.95341E+13	5379.06	0.0288024	0.0224086	0.0674417	0.8911463	0.6933221	2.0553472	2.0553472
219	28:56.2	574353	6.35303E+12	5.95341E+13	5386.27	0.0288024	0.0242596	0.0675321	0.8911463	0.750592	2.0581021	2.0581021
220	33:59.0 39:01.9	574353 574353	6.35303E+12 6.35303E+12	5.95341E+13 5.95341E+13	5393.51 5397.98	0.0288024 0.0288024	0.0246517 0.024574	0.0676229 0.0676789	0.8911463 0.8911463	0.7627236 0.7603196	2.0608686 2.0625766	2.0608686 2.0625766
222	44:04.8	574354	6.35303E+12	5.92005E+13	5401.73	0.0288024	0.024264	0.0681077	0.8911463	0.7507282	2.0756429	2.0756429
223	49:08.5	574356	6.35303E+12	6.01278E+13	5395.44	0.0288024	0.0227333	0.0669792	0.8911463	0.7033683	2.0412523	2.0412523
224	54:11.6 59:14.8	574356 574357	6.35303E+12 6.35303E+12	6.01278E+13 5.98782E+13	5400.19 5407.34	0.0288024 0.0288024	0.0241575 0.0213869	0.0670382 0.0674068	0.8911463 0.8911463	0.7474331 0.6617107	2.0430494	2.0430494 2.054282
226	04:17.8	574357	6.35303E+12	5.98782E+13	5412.65	0.0349955	0.0212221	0.067473	1.0827608	0.6566118	2.0562993	2.0562993
227	09:21.0	574358	6.35303E+12	5.94067E+13	5412.99	0.0349955	0.0210166	0.0680127	1.0827608	0.6502536	2.0727494	2.0727494
228	14:24.8 24:31.9	574359 574360	6.35303E+12 6.35303E+12	5.99023E+13 6.0023E+13	5410.59 5404.27	0.0349955 0.0349955	0.0212588 0.0221652	0.0674202 0.0672059	1.0827608 1.0827608	0.6577473 0.6857913	2.0546898 2.0481598	2.0546898 2.0481598
230	29:35.1	574361	6.35303E+12	5.95038E+13	5406.99	0.0349955	0.0219022	0.0678264	1.0827608	0.6776541	2.0481338	2.0670711
231	34:38.4	574361	6.35303E+12	5.95038E+13	5410.01	0.0349955	0.0238654	0.0678643	1.0827608	0.7383955	2.0682256	2.0682256
232	39:41.8	574361	6.35303E+12	5.95038E+13	5424.76	0.0349955	0.0349014	0.0680493	1.0827608	1.0798493	2.0738645	2.0738645
234	44:45.3 49:48.4	574362 574362	6.35303E+12 6.35303E+12	5.87448E+13 5.87448E+13	5432.99 5431.52	0.0349955 0.0349955	0.0231509 0.0217775	0.0690331 0.0690145	1.0827608 1.0827608	0.7162888 0.6737959	2.1038472 2.103278	2.1038472 2.103278
235	54:51.6	574363	6.35303E+12	5.80502E+13	5426.35	0.0349955	0.0233238	0.0697738	1.0827608	0.7216384	2.1264208	2.1264208
236	59:54.6	574363	6.35303E+12	5.80502E+13	5426.04	0.0349955	0.0316189	0.0697699	1.0827608	0.9782888	2.1262994	2.1262994
237 238	10:00.2 20:06.7	574364 574367	6.35303E+12 6.35303E+12	5.78645E+13 5.84533E+13	5442.45 5443.24	0.026266 0.026266	0.0418451 0.0238876	0.0702054 0.0695083	0.81267 0.81267	1.2946874 0.7390823	2.1395736 2.1183292	2.1395736 2.1183292
239	25:10.0	574368	6.35303E+12	5.81378E+13	5430.99	0.026266	0.0224401	0.0697283	0.81267	0.6942967	2.125032	2.125032
240	30:13.1	574368	6.35303E+12	5.81378E+13	5447.49	0.026266	0.0208024	0.0699401	0.81267	0.6436263	2.1314881	2.1314881
241 242	35:16.2 40:20.4	574369 574369	6.35303E+12 6.35303E+12	5.7527E+13 5.7527E+13	5441.28 5444.99	0.026266 0.026266	0.0204883 0.0193386	0.0706021 0.0706503	0.81267 0.81267	0.633908 0.5983363	2.151664 2.153131	2.151664 2.153131
243	45:23.4	574370	6.35303E+12	5.73316E+13	5445.99	0.026266	0.0193386	0.0709041	0.81267	0.5983363	2.1608665	2.1608665
244	50:26.5	574370	6.35303E+12	5.73316E+13	5466.65	0.026266	0.0188979	0.0711731	0.81267	0.584701	2.169064	2.169064
245 246	55:29.5 00:32.4	574372 574373	6.35303E+12 6.35303E+12	5.7029E+13 5.75391E+13	5473.18 5470.2	0.026266 0.0201854	0.0188979 0.0187891	0.0716362 0.0709624	0.81267 0.6245363	0.584701 0.5813348	2.1831762 2.1626439	2.1831762 2.1626439
247	05:35.4	574373	6.35303E+12	5.75391E+13	5471.01	0.0201854	0.0187891	0.0709729	0.6245363	0.5735874	2.1629641	2.1629641
248	15:40.8	574374	6.35303E+12	5.70787E+13	5460.95	0.0201854	0.0185472	0.0714138	0.6245363	0.5738504	2.1764008	2.1764008
249 250	25:46.4	574376		5.68162E+13	5458.6	0.0201854	0.0186796	0.0717129 0.0723538	0.6245363	0.5779468 0.6501793	2.1855137	2.1855137
250	35:51.9 40:54.8	574377 574377	6.35303E+12 6.35303E+12	5.63276E+13 5.63276E+13	5460.02 5466.78	0.0201854 0.0201854	0.0210142 0.0203564	0.0723538	0.6245363 0.6245363	0.6501793	2.2050485 2.2077785	2.2050485 2.2077785
252	45:57.7	574378	6.35303E+12	5.65074E+13	5473.24	0.0201854	0.0203336	0.0722982	0.6245363	0.6291216	2.2033529	2.2033529
253	51:01.0	574378	6.35303E+12	5.65074E+13	5471.65	0.0201854	0.0199115	0.0722772	0.6245363	0.6160618	2.2027129	2.2027129
254 255	56:04.1 01:36.7	574378 574383	6.35303E+12 6.35303E+12	5.65074E+13 5.72964E+13	5469.64 5478.36	0.0201854 0.017735	0.0188807 0.0180056	0.0722507 0.0713693	0.6245363 0.5487209	0.5841689 0.5570933	2.2019037 2.1750424	2.2019037 2.1750424
256	06:39.8	574384	6.35303E+12	5.65611E+13	5470.62	0.017735	0.0179751	0.072195	0.5487209	0.5561496	2.2002079	2.2002079
257	11:42.7	574384	6.35303E+12	5.65611E+13	5479.43	0.017735	0.018023	0.0723113	0.5487209	0.5576316	2.2037511	2.2037511
258 259	16:45.6 21:48.3	574384 574384	6.35303E+12 6.35303E+12	5.65611E+13 5.65611E+13	5474.09 5484.78	0.017735 0.017735	0.0177163 0.0175711	0.0722408 0.0723819	0.5487209 0.5487209	0.5481423 0.5436498	2.2016035 2.2059028	2.2016035 2.2059028
260	26:51.4	574384	6.35303E+12	5.65611E+13	5487.23	0.017735	0.0172277	0.0724142	0.5487209	0.533025	2.2068882	2.2068882
261	31:54.2	574385	6.35303E+12	5.52675E+13	5489.21	0.017735	0.0175138	0.0741359	0.5487209	0.541877	2.2593577	2.2593577
262 263	36:57.2 47:03.0	574386 574387	6.35303E+12 6.35303E+12	5.5002E+13 5.4816E+13	5489.86 5496.27	0.017735 0.017735	0.0178899 0.0176629	0.0745026 0.0748427	0.5487209 0.5487209	0.5535135 0.5464901	2.2705332 2.2808975	2.2705332 2.2808975
264	52:06.0	574387	6.35303E+12	5.4816E+13	5491.99	0.017735	0.0176411	0.0747844	0.5487209	0.5458156		2.2791214
265	57:08.7	574388	6.35303E+12	5.41076E+13	5492.11	0.017735	0.0176457	0.0757651	0.5487209	0.545958	2.3090086	2.3090086
266	02:11.8	574388	6.35303E+12 6.35303E+12	5.41076E+13	5492.89	0.0168293	0.0176283	0.0757758	0.5206985	0.5454196		2.3093366
267 268	07:15.3 12:18.3	574388 574389	6.35303E+12 6.35303E+12	5.41076E+13 5.34819E+13	5495.29 5494.94	0.0168293 0.0168293	0.0176447 0.0176619	0.0758089 0.076691	0.5206985 0.5206985	0.545927 0.5464592	2.3103456 2.3372263	2.3103456 2.3372263
269	17:21.0	574392	6.35303E+12	5.44667E+13	5498.94	0.0168293	0.0181464	0.0753591	0.5206985	0.5614496	2.2966372	2.2966372
270	22:23.8	574393	6.35303E+12	5.4543E+13	5516.61	0.0168293	0.0186975	0.0754956	0.5206985	0.5785006	2.3007978	2.3007978
271 272	27:27.0 32:29.9	574393 574393	6.35303E+12 6.35303E+12	5.4543E+13 5.4543E+13	5541.73 5543.62	0.0168293 0.0168293	0.0186527 0.0188333	0.0758394 0.0758653	0.5206985 0.5206985	0.5771145 0.5827023	2.3112745 2.3120627	2.3112745 2.3120627
273	37:33.5	574394	6.35303E+12	5.38779E+13	5540.34	0.0168293	0.0188333	0.0767563	0.5206985	0.5812141	2.3320027	2.3392162
274	42:36.4	574394	6.35303E+12	5.38779E+13	5499.34	0.0168293	0.0191027	0.0761882	0.5206985	0.5910375	2.3219053	2.3219053
275 276	47:39.2 52:42.0	574395 574395	6.35303E+12 6.35303E+12	5.53825E+13 5.53825E+13	5524.89 5516.19	0.0168293 0.0168293	0.0188485 0.0188647	0.0744629 0.0743456	0.5206985 0.5206985	0.5831726 0.5836738	2.2693225 2.265749	2.2693225 2.265749
276	52:42.0	574395 574395		5.53825E+13 5.53825E+13	5516.19	0.0168293	0.0188647	0.0743886	0.5206985	0.5836738		2.265749
278	02:47.9	574395	6.35303E+12	5.53825E+13	5528.44	0.0175068	0.0184732	0.0745107	0.5416604	0.5715608	2.2707806	2.2707806
279	07:50.8	574395	6.35303E+12	5.53825E+13	5533.27	0.0175068	0.0184058	0.0745758	0.5416604	0.5694755	2.2727645	2.2727645
280 281	12:53.8 17:56.8	574396 574396	6.35303E+12 6.35303E+12	5.44713E+13 5.44713E+13	5531.02 5545.02	0.0175068 0.0175068	0.0182413 0.0181908	0.0757925 0.0759843	0.5416604 0.5416604	0.5643858 0.5628234	2.3098433 2.3156899	2.3098433 2.3156899
282	22:59.7	574396	6.35303E+12	5.44713E+13	5547.84	0.0175068	0.0181308	0.0759843	0.5416604	0.5633555	2.3150899	2.3168676
283	28:03.3	574397	6.35303E+12	5.38389E+13	5554.01	0.0175068	0.0183035	0.0770014	0.5416604	0.5663103	2.3466856	2.3466856

1	A datetime b	B llock_height i	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	H breakeven_mining_cost	l day_ahead_LMP_rev	real time LMP rev	K mining_rev	L realized rev
284	33:06.2	574397	6.35303E+12	5.38389E+13	5549.85	0.0175068	0.0179475	0.0769437	0.5416604	0.5552957	2.3449279	2.3449279
285	38:09.0	574397	6.35303E+12	5.38389E+13	5562.7	0.0175068	0.0181763	0.0771218	0.5416604	0.5623747	2.3503573	2.3503573
286 287	43:11.9 48:15.5	574397 574397	6.35303E+12	5.38389E+13 5.38389E+13	5576.66 5591.65	0.0175068 0.0175068	0.0180946 0.0182001	0.0773154 0.0775232	0.5416604 0.5416604	0.5598469 0.5631111	2.3562557 2.3625893	2.3562557 2.3625893
288	53:18.6	574397	6.35303E+12 6.35303E+12	5.38389E+13 5.38389E+13	5576.07	0.0175068	0.0182001	0.0773072	0.5416604	0.578281	2.3525893	2.3560064
289	58:21.9	574398	6.35303E+12	5.24135E+13	5579.93	0.0175068	0.0187504	0.0794646	0.5416604	0.5801374	2.4217554	2.4217554
290	03:24.7	574399	6.35303E+12	5.22154E+13	5582.01	0.0177324	0.0190536	0.0797958	0.5486405	0.5895184	2.431849	2.431849
291 292	08:28.1 13:30.8	574399 574400	6.35303E+12 6.35303E+12	5.22154E+13 5.19602E+13	5562.69 5575.84	0.0177324 0.0177324	0.0191988 0.0190126	0.0795196 0.0800991	0.5486405 0.5486405	0.5940109 0.5882498	2.4234321 2.441092	2.4234321 2.441092
293	18:33.6	574400	6.35303E+12	5.19602E+13	5579.19	0.0177324	0.019119	0.0801472	0.5486405	0.5915419	2.4425586	2.4425586
294	23:36.6	574401	6.35303E+12	5.14241E+13	5571.19	0.0177324	0.01914	0.0808667	0.5486405	0.5921916	2.4644852	2.4644852
295	28:39.9	574401	6.35303E+12	5.14241E+13	5570.27	0.0177324	0.0192996	0.0808533	0.5486405	0.5971296	2.4640783	2.4640783
296 297	33:43.3 38:46.1	574402 574403	6.35303E+12 6.35303E+12	5.15991E+13 5.16659E+13	5576.77 5613.91	0.0177324 0.0177324	0.0192744 0.0199884	0.0806731 0.0811054	0.5486405 0.5486405	0.5963499 0.6184411	2.458585 2.4717605	2.458585 2.4717605
298	43:49.0	574404	6.35303E+12	5.22163E+13	5628.79	0.0177324	0.0195167	0.0804633	0.5486405	0.6038467	2.45219	2.45219
299	48:51.9	574405	6.35303E+12	5.26766E+13	5629.74	0.0177324	0.0214372	0.0797736	0.5486405	0.663267	2.4311707	2.4311707
300	53:54.6 58:57.5	574406 574407	6.35303E+12 6.35303E+12	5.44332E+13 5.44179E+13	5687.49 5665.95	0.0177324 0.0177324	0.0195852 0.0195061	0.077991 0.0777176	0.5486405 0.5486405	0.6059661 0.6035187	2.3768473 2.3685147	2.3768473 2.3685147
302	04:00.3	574407	6.35303E+12	5.44179E+13 5.44179E+13	5670.39	0.0177324	0.0195061	0.0777785	0.5486405	0.5706821	2.3085147	2.3685147
303	09:03.2	574408	6.35303E+12	5.43366E+13	5671.73	0.0185341	0.0190636	0.0779133	0.5734451	0.5898278	2.3744772	2.3744772
304	14:06.4	574409	6.35303E+12	5.45039E+13	5709.88	0.0185341	0.0193304	0.0781965	0.5734451	0.5980826	2.3831101	2.3831101
305 306	19:09.3 24:12.6	574409 574409	6.35303E+12 6.35303E+12	5.45039E+13 5.45039E+13	5681.29 5681.4	0.0185341 0.0185341	0.0195839 0.021853	0.077805 0.0778065	0.5734451 0.5734451	0.6059259 0.6761318	2.3711776 2.3712235	2.3711776 2.3712235
307	29:16.5	574410	6.35303E+12	5.4739E+13	5706.78	0.0185341	0.021833	0.0778185	0.5734451	0.6206935	2.3715874	2.3712233
308	34:19.5	574410	6.35303E+12	5.4739E+13	5723.04	0.0185341	0.0209275	0.0780402	0.5734451	0.6474969	2.3783446	2.3783446
309	39:22.8	574410	6.35303E+12	5.4739E+13	5712.44	0.0185341	0.0210112	0.0778956	0.5734451	0.6500865	2.3739395	2.3739395
310 311	44:26.3 49:29.4	574410 574410	6.35303E+12 6.35303E+12	5.4739E+13 5.4739E+13	5766.56 5752.64	0.0185341 0.0185341	0.0207384 0.0222079	0.0786336 0.0784438	0.5734451 0.5734451	0.6416461 0.6871124	2.3964304 2.3906456	2.3964304 2.3906456
312	54:32.5	574411	6.35303E+12	5.33843E+13	5785.23	0.0185341	0.0227025	0.0808902	0.5734451	0.7024153	2.4652002	2.4652002
313	59:35.5	574412	6.35303E+12	5.33495E+13	5778.03	0.0185341	0.0428589	0.0808422	0.5734451	1.3260544	2.4637378	2.4637378
314 315	04:38.4 09:41.5	574412 574412	6.35303E+12 6.35303E+12	5.33495E+13 5.33495E+13	5707.59 5698.98	0.0231547 0.0231547	0.0241354 0.0216243	0.0798566 0.0797362	0.7164064 0.7164064	0.7467493 0.6690558	2.4337024 2.4300311	2.4337024 2.4300311
315	14:44.4	574412	6.35303E+12 6.35303E+12	5.33495E+13 5.33495E+13	5698.98	0.0231547	0.0216243	0.0797362	0.7164064	0.6690558	2.4300311	2.4300311
317	19:47.4	574413	6.35303E+12	5.25253E+13	5727.04	0.0231547	0.0226368	0.081386	0.7164064	0.7003826	2.4803111	2.4803111
318	24:50.2	574413	6.35303E+12	5.25253E+13	5727.44	0.0231547	0.0213798	0.0813917	0.7164064	0.661491	2.4804844	2.4804844
319 320	29:53.5 34:56.2	574413 574414	6.35303E+12 6.35303E+12	5.25253E+13 5.19701E+13	5735.97 5739.52	0.0231547 0.0231547	0.0246145 0.0244526	0.0815129 0.0824347	0.7164064 0.7164064	0.7615726 0.7565634	2.4841786 2.5122723	2.4841786 2.5122723
321	39:58.9	574415	6.35303E+12	5.18073E+13	5733.01	0.0231547	0.0247503	0.0826	0.7164064	0.7657743	2.5173089	2.5173089
322	45:02.0	574418	6.35303E+12	5.19586E+13	5730.9	0.0231547	0.0246666	0.0823292	0.7164064	0.7631846	2.5090566	2.5090566
323 324	50:05.4 55:08.3	574420 574421	6.35303E+12 6.35303E+12	5.25895E+13 5.25734E+13	5722.12 5697.57	0.0231547 0.0231547	0.0217518 0.0351625	0.0812169 0.0808932	0.7164064 0.7164064	0.6730007 1.0879278	2.4751591 2.4652918	2.4751591 2.4652918
325	00:11.2	574421	6.35303E+12	5.25734E+13	5674.99	0.0251547	0.0331623	0.0805726	0.8121812	0.7043924	2.4555216	2.4555216
326	05:14.1	574423	6.35303E+12	5.29406E+13	5662.61	0.0262502	0.0211763	0.0798392	0.8121812	0.6551947	2.4331701	2.4331701
327	10:17.1	574424	6.35303E+12	5.28202E+13	5700.01	0.0262502	0.0212464	0.0805497	0.8121812	0.6573636	2.4548241	2.4548241
328 329	15:20.3 20:23.5	574424 574425	6.35303E+12 6.35303E+12	5.28202E+13 5.23532E+13	5679.07 5686.98	0.0262502 0.0262502	0.0274053 0.0470867	0.0802538 0.0810825	0.8121812 0.8121812	0.84792 1.4568625	2.4458059 2.471061	2.4458059 2.471061
330	25:27.5	574426	6.35303E+12	5.30049E+13	5674.69	0.0262502	0.2292147	0.0799125	0.8121812	7.0919028	2.435404	7.0919028
331	30:31.9	574427	6.35303E+12	5.28466E+13	5692.52	0.0262502	0.2216174	0.0804036	0.8121812	6.8568424	2.4503724	6.8568424
332 333	35:34.7 40:37.2	574427 574428	6.35303E+12 6.35303E+12	5.28466E+13 5.2354E+13	5694.01 5713.35	0.0262502 0.0262502	0.0471417 0.026834	0.0804247 0.0814571	0.8121812 0.8121812	1.4585642 0.830244	2.4510138 2.4824794	2.4510138 2.4824794
334	45:39.9	574428	6.35303E+12	5.2354E+13	5716.19	0.0262502	0.0271429	0.0814976	0.8121812	0.8398013	2.4824734	2.4837134
335	50:43.0	574428	6.35303E+12	5.2354E+13	5717.38	0.0262502	0.0274218	0.0815146	0.8121812	0.8484305	2.4842305	2.4842305
336	55:46.3	574429	6.35303E+12	5.15634E+13	5710.01	0.0262502	0.0231901 0.0217524	0.0826578 0.0824894	0.8121812	0.7175017 0.6730193	2.5190709	2.5190709
337 338	00:48.9 05:51.7	574429 574429	6.35303E+12 6.35303E+12	5.15634E+13 5.15634E+13	5698.38 5709.41	0.026897 0.026897	0.0217524	0.0824894	0.8321932 0.8321932	0.6730193	2.5139401 2.5188062	2.5139401 2.5188062
339	10:54.7	574430	6.35303E+12	5.12815E+13	5715.13	0.026897	0.0226581	0.0831866	0.8321932	0.7010416	2.5351866	2.5351866
340	15:57.5	574430	6.35303E+12	5.12815E+13	5712.23	0.026897	0.0229356	0.0831444	0.8321932	0.7096275	2.5339002	2.5339002
341 342	21:00.5 26:04.3	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5713.4 5723.95	0.026897 0.026897	0.0229256 0.023048	0.0831614 0.083315	0.8321932 0.8321932	0.7093181 0.7131051	2.5344192 2.5390991	2.5344192 2.5390991
343	31:07.1	574430	6.35303E+12	5.12815E+13	5735.36	0.026897	0.0238875	0.0834811	0.8321932	0.7390793	2.5441605	2.5441605
344	36:10.4	574430	6.35303E+12	5.12815E+13	5739.01	0.026897	0.0236472	0.0835342	0.8321932	0.7316444		2.5457796
345 346	41:13.2 46:16.4	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5741.24 5724.65	0.026897 0.026897	0.0239907 0.0464448	0.0835666 0.0833252	0.8321932 0.8321932	0.7422723 1.4370021	2.5467688 2.5394096	2.5467688 2.5394096
347	56:21.7	574432	6.35303E+12	4.99455E+13	5715.44	0.026897	0.0464448	0.0854165	0.8321932	1.4316619	2.6031435	2.6031435
348	01:25.6	574432	6.35303E+12	4.99455E+13	5710.99	0.026856	0.0260505	0.08535	0.8309246	0.8060025	2.6011167	2.6011167
349 350	06:28.6 11:32.0	574433 574435	6.35303E+12 6.35303E+12	4.98413E+13 4.97656E+13	5720.19 5727.69	0.026856 0.026856	0.0232273 0.0241208	0.0856661 0.085909	0.8309246 0.8309246	0.7186527 0.7462976	2.6107513 2.6181535	2.6107513 2.6181535
351	16:35.1	574435	6.35303E+12	4.97656E+13	5726.31	0.026856	0.0241208	0.0858883	0.8309246	0.8216488	2.6175227	2.6175227
352	21:38.0	574437	6.35303E+12	4.98823E+13	5731.36	0.026856	0.0254804	0.0857628	0.8309246	0.7883636	2.6136992	2.6136992
353	26:41.0	574438	6.35303E+12	4.9928E+13	5735.02	0.026856	0.0467602	0.0857391	0.8309246	1.4467606	2.6129777	2.6129777
354 355	31:44.0 36:47.2	574440 574441	6.35303E+12 6.35303E+12	4.96931E+13 5.04581E+13	5745.06 5742.56	0.026856 0.026856	0.0262716 0.0260607	0.0862952 0.0849499	0.8309246 0.8309246	0.8128433 0.8063181	2.6299251 2.5889252	2.6299251 2.5889252
356	41:49.9	574441	6.35303E+12	5.04581E+13	5743.71	0.026856	0.0260607	0.0849669	0.8309246	1.4513552	2.5894437	2.5894437
357	46:52.8	574442	6.35303E+12	5.28842E+13	5750.85	0.026856	0.0335792	0.0811698	0.8309246	1.0389404	2.4737229	2.4737229
358 359	51:55.7 56:59.4	574442 574443	6.35303E+12 6.35303E+12	5.28842E+13 5.28228E+13	5746.02 5737.61	0.026856 0.026856	0.0258719 0.0247931	0.0811016 0.0810771	0.8309246 0.8309246	0.8004766 0.7670985	2.4716453 2.4708977	2.4716453 2.4708977
360	07:04.8	574443	6.35303E+12	5.28228E+13 5.28228E+13	5735.1	0.0293057	0.0247931	0.0810771	0.8309246	0.7402209	2.4708977	2.4708977
361	12:08.2	574443	6.35303E+12	5.28228E+13	5755.91	0.0293057	0.0241312	0.0813357	0.9067184	0.7466193	2.4787786	2.4787786
362	17:11.3	574443	6.35303E+12	5.28228E+13		0.0293057	0.0244131	0.0813936	0.9067184	0.7553413	2.4805442	2.4805442
363 364	22:14.8 27:17.9	574444 574444	6.35303E+12 6.35303E+12	5.21447E+13 5.21447E+13	5754.45 5767.44	0.0293057 0.0293057	0.0243054 0.0271808	0.0823724 0.0825583	0.9067184 0.9067184	0.7520091 0.840974	2.510372 2.5160389	2.510372 2.5160389
365	32:20.7	574445	6.35303E+12	5.19166E+13	5755.01	0.0293057	0.0271808	0.0827425	0.9067184	1.0357196	2.5216513	2.5216513
366	37:23.8	574446	6.35303E+12	5.17083E+13	5764.68	0.0293057	0.0269796	0.0832153	0.9067184	0.8347488	2.5360608	2.5360608
367	42:26.6	574446	6.35303E+12	5.17083E+13	5756.94	0.0293057	0.0257824	0.0831036	0.9067184	0.7977075		2.5326557
368 369	47:30.1 52:32.9	574446 574448	6.35303E+12 6.35303E+12	5.17083E+13 5.19511E+13	5755.95 5743.01	0.0293057 0.0293057	0.0259458 0.0258671	0.0830893 0.082515	0.9067184 0.9067184	0.8027631 0.8003281	2.5322202 2.5147176	2.5322202 2.5147176
370	57:35.8	574448	6.35303E+12	5.19511E+13	5714.06	0.0293057	0.0238071	0.082099	0.9067184	0.9007562	2.5020411	2.5020411
371	02:38.8	574448	6.35303E+12	5.19511E+13	5709.16	0.0285642	0.0261365	0.0820286	0.8837763	0.8086633	2.4998955	2.4998955
372	07:41.8	574449 574449	6.35303E+12	5.17328E+13	5699.99	0.0285642	0.0243494	0.0822425	0.8837763	0.7533704	2.5064137	2.5064137
373 374	12:45.5 17:48.3	574449 574450	6.35303E+12 6.35303E+12	5.17328E+13 5.16724E+13	5715.31 5717.01	0.0285642 0.0285642	0.0249058 0.0252523	0.0824635 0.0825845	0.8837763 0.8837763	0.7705855 0.7813062	2.5131502 2.5168369	2.5131502 2.5168369
375	22:51.1	574450	6.35303E+12	5.16724E+13	5712.98	0.0285642	0.0249495	0.0825263	0.8837763	0.7719375	2.5150627	2.5150627
376	27:54.2	574450	6.35303E+12	5.16724E+13	5722.03	0.0285642	0.0249614	0.082657	0.8837763	0.7723057	2.5190469	2.5190469
377	32:57.1	574450	6.35303E+12	5.16724E+13	5727.15	0.0285642	0.024628	0.082731	0.8837763	0.7619903	2.5213009	2.5213009

Г	A	В	C	D	Е	F	G	Н	I	J	K	L
Г	1 datetime	block_height	network_diff	est_network_hashrate	BTC_price	day_ahead_LMP	real_time_LMP	breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
3	78 38:00	.1 574451	6.35303E+12	5.07309E+13	5728.02	0.0285642	0.0251649	0.0842791	0.8837763	0.778602	2.5684819	2.5684819
3	79 43:02	.9 574453	6.35303E+12	5.08262E+13	5712.01	0.0285642	0.0253148	0.083886	0.8837763	0.7832399	2.5565013	2.5565013
3	80 48:06	.0 574454	6.35303E+12	5.11925E+13	5714.36	0.0285642	0.0241284	0.08332	0.8837763	0.7465327	2.5392517	2.5392517
3	81 53:08	.8 574454	6.35303E+12	5.11925E+13	5702.85	0.0285642	0.0233991	0.0831522	0.8837763	0.7239682	2.5341371	2.5341371
3	82 58:11	.8 574454	6.35303E+12	5.11925E+13	5709.89	0.0285642	0.0231231	0.0832548	0.8837763	0.7154287	2.5372654	2.5372654
3	83 03:14	.8 574454	6.35303E+12	5.11925E+13	5717.23	0.0308666	0.0242656	0.0833618	0.9550126	0.7507777	2.540527	2.540527
3	84 08:17	.7 574454	6.35303E+12	5.11925E+13	5705.48	0.0308666	0.0233018	0.0831905	0.9550126	0.7209577	2.5353057	2.5353057
- [3	85 13.21	1 574454	6 35303F+12	5 11925F+13	5717 65	0.0308666	0.0235938	0.083368	0.9550126	0.7299922	2 5407136	2 5407136

Bearbox v Lancium Trial Exhibit

TX920-8

1	A datetime	B block_height	C network diff	D est_network_hashrate	E BTC_price	F day ahead LMP	G real time LMP	hronkovon mining cost	day ahead LMP rev	real time LMP rev	K mining rou	L realized rev
2	18:57.8	574204	6.35303E+12	5.38327E+13	5320.85	0.0060427	0.005385	breakeven_mining_cost 0.0737773	0.1869611	0.1666119	mining_rev 2.2484294	2.2484294
3	24:01.3	574204	6.35303E+12	5.38327E+13	5320.01	0.0060427	0.0064427	0.0737656	0.1869611	0.1993371	2.2480744	2.2480744
5	29:04.5 34:07.5	574204 574204	6.35303E+12 6.35303E+12	5.38327E+13 5.38327E+13	5319.53 5323.01	0.0060427 0.0060427	0.0066197 0.0050811	0.073759 0.0738072	0.1869611 0.1869611	0.2048135 0.1572092	2.2478716 2.2493421	2.2478716 2.2493421
6	39:10.8	574205	6.35303E+12	5.30839E+13	5321.95	0.0060427	0.0039673	0.0748335	0.1869611	0.1227483	2.2806172	2.2806172
7	44:13.7	574205	6.35303E+12	5.30839E+13	5326.49	0.0060427	0.0026429	0.0748973	0.1869611	0.0817713	2.2825627	2.2825627
8	49:17.3 54:21.0	574206 574207	6.35303E+12 6.35303E+12	5.44532E+13 5.39845E+13	5325.49 5329.01	0.0060427 0.0060427	0.0055617 0.0078101	0.0730003 0.0736827	0.1869611 0.1869611	0.172079 0.2416445	2.2247506 2.2455467	2.2247506 2.2455467
10	59:24.0	574207	6.35303E+12	5.39845E+13	5325.97	0.0060427	0.0013496	0.0736407	0.1869611	0.0417566	2.2442657	2.2442657
11	04:26.9	574208	6.35303E+12	5.34662E+13	5326.24	0.0010725	0.0028982	0.0743583	0.0331832	0.0896703	2.2661373	2.2661373
12	09:29.9 14:32.8	574208 574209	6.35303E+12 6.35303E+12	5.34662E+13 5.33477E+13	5325.01 5321.61	0.0010725 0.0010725	-0.0032033 -0.0082933	0.0743412 0.0744587	0.0331832 0.0331832	-0.0991101 -0.2565947	2.2656139 2.2691954	2.2656139 2.2691954
14	19:35.8	574209	6.35303E+12	5.33477E+13	5321.01	0.0010725	0.0010456	0.0744503	0.0331832	0.0323509	2.2689395	2.2689395
15	24:38.8	574210	6.35303E+12	5.36221E+13	5327.95	0.0010725	0.001341	0.074166	0.0331832	0.0414905	2.2602762	2.2602762
16 17	29:41.7 34:44.6	574212 574212	6.35303E+12 6.35303E+12	5.54528E+13 5.54528E+13	5327.05 5323.36	0.0010725 0.0010725	-0.0189529 -0.0315616	0.0717053 0.0716557	0.0331832 0.0331832	-0.5864027 -0.9765159	2.185285 2.1837713	2.185285 2.1837713
18	39:47.5	574215	6.35303E+12	5.58834E+13	5323.30	0.0010725	-0.0313010	0.0711001	0.0331832	-0.9565813	2.1657713	2.1668382
19	44:50.4	574215	6.35303E+12	5.58834E+13	5323.1	0.0010725	-0.0300668	0.0711001	0.0331832	-0.9302668	2.1668382	2.1668382
20	49:53.4 54:56.2	574215 574215	6.35303E+12 6.35303E+12	5.58834E+13 5.58834E+13	5326.69 5326.7	0.0010725 0.0010725	-0.0266166 -0.031087	0.071148 0.0711481	0.0331832 0.0331832	-0.8235176 -0.9618318	2.1682995 2.1683036	2.1682995 2.1683036
22	59:59.2	574216	6.35303E+12	5.54406E+13	5326.69	0.0010725	-0.0320125	0.0717163	0.0331832	-0.9904668	2.1856184	2.1856184
23	05:02.6	574216	6.35303E+12	5.54406E+13	5330.34	0.0004616	-0.0310784	0.0717654	0.0142819	-0.9615657	2.187116	2.187116
24	10:05.7 15:08.7	574219 574220	6.35303E+12	5.59245E+13 5.59914E+13	5326.73 5330.77	0.0004616 0.0004616	-0.0029138 -0.0189733	0.0710963 0.0710652	0.0142819 0.0142819	-0.090153 -0.5870339	2.1667245 2.1657754	2.1667245 2.1657754
26	20:11.5	574220	6.35303E+12 6.35303E+12	5.59914E+13	5343.74	0.0004616	-0.0173406	0.0712381	0.0142819	-0.5365182	2.1037734	2.1037734
27	25:14.5	574224	6.35303E+12	5.59847E+13	5336.19	0.0004616	-0.0300341	0.071146	0.0142819	-0.9292551	2.168237	2.168237
28	30:17.5	574226	6.35303E+12	5.60441E+13	5332.48	0.0004616	-0.0260257	0.0710211	0.0142819	-0.8052352	2.1644326	2.1644326
29 30	35:20.7 40:24.0	574227 574227	6.35303E+12 6.35303E+12	5.56725E+13 5.56725E+13	5331.92 5332.07	0.0004616 0.0004616	-0.0190855 -0.0196742	0.0714877 0.0714897	0.0142819 0.0142819	-0.5905054 -0.6087197	2.1786519 2.1787132	2.1786519 2.1787132
31	45:26.9	574227	6.35303E+12	5.56725E+13	5339.99	0.0004616	-0.0193638	0.0715959	0.0142819	-0.599116	2.1819493	2.1819493
32	50:29.9	574228	6.35303E+12	5.52451E+13	5343.15	0.0004616	-0.0290785 -0.0235031	0.0721925	0.0142819	-0.8996888	2.2001303	2.2001303 2.1733552
33	55:32.9 00:36.0	574229 574229	6.35303E+12 6.35303E+12	5.5892E+13 5.5892E+13	5339.93 5339.62	0.0004616 0.0003683	-0.0235031 -0.0186023	0.0713139 0.0713098	0.0142819 0.0113952	-0.7271859 -0.5755552	2.1733552 2.173229	2.1733552
35	05:38.8	574229	6.35303E+12	5.5892E+13	5340.81	0.0003683	-0.030799	0.0713256	0.0113952	-0.9529211	2.1737133	2.1737133
36	10:41.7	574229	6.35303E+12	5.5892E+13	5346.19	0.0003683	-0.0302803	0.0713975	0.0113952	-0.9368725	2.175903	2.175903
37 38	15:45.1 20:48.1	574230 574231	6.35303E+12 6.35303E+12	5.53347E+13 5.49411E+13	5351.26 5348.15	0.0003683	-0.030195 -0.0280841	0.0721849 0.0726599	0.0113952 0.0113952	-0.9342333 -0.8689221	2.1999008 2.2143761	2.1999008 2.2143761
39	25:51.1	574231	6.35303E+12	5.49411E+13	5345.35	0.0003683	-0.028219	0.0726219	0.0113952	-0.8730959	2.2132168	2.2132168
40	30:54.2	574231	6.35303E+12	5.49411E+13	5345.27	0.0003683	-0.0269783	0.0726208	0.0113952	-0.8347086	2.2131836	2.2131836
41	35:57.2 41:00.3	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5350.24 5346.06	0.0003683 0.0003683	-0.0274456 -0.0274731	0.0730005 0.0729435	0.0113952 0.0113952	-0.8491669 -0.8500177	2.2247569 2.2230187	2.2247569 2.2230187
43	46:03.7	574232	6.35303E+12	5.47061E+13	5353.06	0.0003683	-0.0289024	0.073039	0.0113952	-0.8942403	2.2259295	2.2259295
44	51:06.6	574232	6.35303E+12	5.47061E+13	5358.68	0.0003683	-0.0281664	0.0731157	0.0113952	-0.8714684	2.2282664	2.2282664
45 46	56:09.5 01:12.5	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5361.44 5374.99	0.0003683 0.0029068	-0.0264087 -0.0263978	0.0731533 0.0733382	0.0113952 0.0899364	-0.8170852 -0.8167479	2.2294141 2.2350485	2.2294141 2.2350485
47	06:15.5	574233	6.35303E+12	5.35475E+13	5374.51	0.0029068	-0.0027561	0.0749183	0.0899364	-0.0852737	2.2832021	2.2832021
48	11:18.3	574233	6.35303E+12	5.35475E+13	5358.81	0.0029068	-0.0007245	0.0746994	0.0899364	-0.022416	2.2765324	2.2765324
49 50	16:21.5 21:24.5	574233 574234	6.35303E+12 6.35303E+12	5.35475E+13 5.31615E+13	5364.9 5359.77	0.0029068 0.0029068	-0.0182589 -0.0018612	0.0747843 0.0752553	0.0899364 0.0899364	-0.5649304 -0.0575855	2.2791195 2.293473	2.2791195 2.293473
51	26:27.4	574234	6.35303E+12	5.31615E+13	5359.03	0.0029068	-0.0145596	0.0752449	0.0899364	-0.450474	2.2931563	2.2931563
52 53	31:30.3	574234 574234	6.35303E+12 6.35303E+12	5.31615E+13	5350.15	0.0029068	-0.0032024	0.0751202	0.0899364	-0.0990823	2.2893565	2.2893565
54	36:33.4 41:37.6	574234	6.35303E+12 6.35303E+12	5.31615E+13 5.29706E+13	5341.65 5347.88	0.0029068	-0.0159588 -0.031347	0.0750009 0.075359	0.0899364 0.0899364	-0.4937653 -0.9698762	2.2857193 2.2966332	2.2857193 2.2966332
55	46:40.5	574237	6.35303E+12	5.26741E+13	5351.2	0.0029068	-0.0299955	0.0758303	0.0899364	-0.9280608	2.3109964	2.3109964
56 57	51:43.8	574238 574238	6.35303E+12 6.35303E+12	5.2719E+13 5.2719E+13	5355.44 5345.98	0.0029068 0.0029068	-0.005314	0.0758257 0.0756917	0.0899364	-0.1644152 -0.0469917	2.3108556 2.3067736	2.3108556 2.3067736
58	56:47.1 01:50.1	574239	6.35303E+12	5.28168E+13	5350.18	0.0123358	-0.0015188 -0.0315408	0.0756109	0.0899364 0.3816697	-0.9758724	2.3047736	2.3047736
59	06:52.9	574240	6.35303E+12	5.25658E+13	5350.99	0.0123358	-0.0303257	0.0759835	0.3816697	-0.9382772	2.3156641	2.3156641
60	11:55.9 16:58.9	574242 574243	6.35303E+12	5.34165E+13	5348.27 5354.48	0.0123358	9.42E-05	0.0747354	0.3816697	0.0029145	2.2776282 2.2762553	2.2776282
62	22:01.8	574245	6.35303E+12 6.35303E+12	5.35108E+13 5.38531E+13	5359.65	0.0123358	0.0004518	0.0746903	0.3816697 0.3816697	0.0139787		2.2/62553
63	27:04.8	574246	6.35303E+12	5.41667E+13	5357.51	0.0123358	-0.0032478	0.0738276	0.3816697	-0.1004869	2.2499632	2.2499632
64 65	32:07.7 37:10.8	574246 574246	6.35303E+12 6.35303E+12	5.41667E+13 5.41667E+13	5361.99 5361.98	0.0123358 0.0123358	-0.0012084 0.0049192	0.0738894 0.0738892	0.3816697 0.3816697	-0.0373879 0.1522	2.2518446 2.2518404	2.2518446 2.2518404
66	42:13.6	574246	6.35303E+12	5.41667E+13	5366.22	0.0123358	-0.0153369	0.0739476	0.3816697	-0.4745237	2.2536211	2.2536211
67	47:16.4	574249		5.43573E+13	5361.59	0.0123358	-0.001234	0.0736247	0.3816697	-0.03818		2.2437799
68 69	52:19.3 57:22.2	574251 574251	6.35303E+12 6.35303E+12	5.52479E+13 5.52479E+13	5360.9 5354.26	0.0123358 0.0123358	0.0019206 0.0019529	0.0724286 0.0723389	0.3816697 0.3816697	0.0594234 0.0604227	2.2073275 2.2045935	2.2073275 2.2045935
70	02:25.2	574252	6.35303E+12	5.50584E+13	5358.27	0.0171547	0.0052837	0.0726423	0.5307664	0.1634777	2.2138386	2.2138386
71	07:29.5	574253	6.35303E+12	5.55506E+13	5362.43	0.0171547	0.1591301	0.0720545	0.5307664	4.9234853	2.1959243	4.9234853
72 73	12:32.4 17:35.8	574254 574255	6.35303E+12 6.35303E+12	5.55733E+13 5.5978E+13	5360.24 5358.19	0.0171547 0.0171547	0.0137192 0.0100247	0.0719957 0.0714478	0.5307664 0.5307664	0.424472 0.3101642	2.1941337 2.1774367	2.1941337 2.1774367
74	22:39.3	574257	6.35303E+12	5.59531E+13	5365.45	0.0171547	0.010676	0.0715764	0.5307664	0.3303154	2.1813562	2.1813562
75 76	27:42.4	574257	6.35303E+12	5.59531E+13	5368.93	0.0171547	0.0084567	0.0716229	0.5307664	0.2616503	2.182771	2.182771
76 77	32:45.3 37:48.1	574257 574257	6.35303E+12 6.35303E+12	5.59531E+13 5.59531E+13	5368.01 5368.01	0.0171547 0.0171547	0.00695 0.0068908	0.0716106 0.0716106	0.5307664 0.5307664	0.215033 0.2132014	2.182397 2.182397	2.182397 2.182397
78	42:51.2	574258	6.35303E+12	5.61961E+13	5363.48	0.0171547	0.0079862	0.0712408	0.5307664	0.247093	2.1711281	2.1711281
79 80	47:54.2	574258	6.35303E+12	5.61961E+13	5363.48	0.0171547	0.0077288	0.0712408	0.5307664	0.2391291	2.1711281	2.1711281
80	53:01.0 58:03.9	574258 574258	6.35303E+12 6.35303E+12	5.61961E+13 5.61961E+13	5367.12 5368.9	0.0171547 0.0171547	0.0079606 0.0094797	0.0712892 0.0713128	0.5307664 0.5307664	0.246301 0.2933019	2.1726015 2.1733221	2.1726015 2.1733221
82	03:06.9	574258	6.35303E+12	5.61961E+13	5361.18	0.0175345	0.0099931	0.0712103	0.5425174	0.3091865	2.170197	2.170197
83	08:10.0 13:13.1	574258 574260	6.35303E+12 6.35303E+12	5.61961E+13 5.46276E+13	5360.85 5364.69	0.0175345 0.0175345	0.0140424 0.0115677	0.0712059 0.0733029	0.5425174 0.5425174	0.4344719 0.3579046	2.1700634 2.2339708	2.1700634 2.2339708
85	13:13.1	574260	6.35303E+12 6.35303E+12	5.46276E+13 5.46276E+13	5364.69	0.0175345	0.01156//	0.0733029	0.5425174	0.3579046	2.2339708	2.2356531
86	23:19.1	574260	6.35303E+12	5.46276E+13	5365.96	0.0175345	0.0087186	0.0733202	0.5425174	0.2697535	2.2344996	2.2344996
87	28:22.1 33:25.3	574260 574261	6.35303E+12	5.46276E+13	5366.96	0.0175345	0.0076954	0.0733339	0.5425174 0.5425174	0.2380957	2.234916	2.234916 2.2764693
88	33:25.3	574261 574261	6.35303E+12 6.35303E+12	5.36607E+13 5.36607E+13	5369.99 5366.01	0.0175345 0.0175345	0.0085314 0.007959	0.0746974 0.074642	0.5425174 0.5425174	0.2639615 0.2462515	2.2764693 2.2747821	2.2764693
90	43:31.2	574261	6.35303E+12	5.36607E+13	5363.99	0.0175345	0.0088748	0.0746139	0.5425174	0.2745863	2.2739257	2.2739257
91 92	48:34.0	574261 574261	6.35303E+12	5.36607E+13	5362.94	0.0175345	0.0087942	0.0745993	0.5425174	0.2720925	2.2734806	2.2734806
92	53:36.9 58:39.7	574261 574263	6.35303E+12 6.35303E+12	5.36607E+13 5.26165E+13	5374.61 5373.07	0.0175345 0.0175345	0.0108958 0.0088925	0.0747616 0.0762235	0.5425174 0.5425174	0.3371161 0.275134	2.2784278 2.3229796	2.2784278 2.3229796
94	03:42.6	574266	6.35303E+12	5.51716E+13	5365.69	0.0192201	0.008437	0.0725936	0.5946699	0.2610408	2.2123564	2.2123564
95	08:45.5	574268	6.35303E+12	5.60115E+13	5358.95	0.0192201	0.0081387	0.0714152	0.5946699	0.2518114	2.1764425	2.1764425

1 d 96 97 98 99 100 101 102	A latetime 13:48.7 18:51.9	B block_height	C network diff	D	E	F	G	Н	1	J	K	1 1
96 97 98 99 100 101	13:48.7						and Alman IAAD	Land to the second second second	day, aleased IAAD asset	and Alman LAAD and		and the state of
97 98 99 100 101		574269	6.35303E+12	est_network_hashrate 5.58958E+13	BTC_price 5350.35	day_ahead_LMP 0.0192201	real_time_LMP 0.0089234	breakeven_mining_cost 0.0714482	day_ahead_LMP_rev 0.5946699	real_time_LMP_rev 0.27609	mining_rev 2.1774474	realized_rev 2.1774474
99 100 101	10.51.5	574270	6.35303E+12	5.6144E+13	5350.01	0.0192201	0.0083345	0.0711278	0.5946699	0.2578694	2.1676825	
100 101	23:54.8	574271	6.35303E+12	5.6095E+13	5356.14	0.0192201	0.0081467	0.0712715	0.5946699	0.2520589	2.172064	
101	28:57.8	574271 574272	6.35303E+12	5.6095E+13	5348.01	0.0192201 0.0192201	0.0080171	0.0711633	0.5946699	0.2480491 0.2529531	2.168767 2.1989837	
	34:00.7 39:03.7	574272	6.35303E+12 6.35303E+12	5.54087E+13 5.53104E+13	5356.18 5355.34	0.0192201	0.0081756 0.0085978	0.0721548 0.0722717	0.5946699 0.5946699	0.2660159	2.1989837	
	44:07.1	574274	6.35303E+12	5.53441E+13	5355.28	0.0192201	0.0106277	0.072227	0.5946699	0.328821	2.2011814	
103	49:10.1	574274	6.35303E+12	5.53441E+13	5354.11	0.0192201	0.0119739	0.0722112	0.5946699	0.3704725	2.2007005	
104 105	54:13.2 59:16.2	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5355.14 5369.69	0.0192201 0.0192201	0.0170918 0.0147439	0.0722251 0.0724213	0.5946699 0.5946699	0.5288203 0.4561763	2.2011238 2.2071043	
106	04:19.1	574274	6.35303E+12	5.53441E+13	5370.68	0.0216772	0.0099164	0.0724347	0.6706926	0.3068134	2.2075112	
107	09:22.5	574274	6.35303E+12	5.53441E+13	5367.34	0.0216772	0.0091219	0.0723896	0.6706926	0.2822316	2.2061384	
108	14:25.5	574274	6.35303E+12	5.53441E+13	5364.39	0.0216772	0.0156346	0.0723498	0.6706926	0.4837345	2.2049258	
109	19:28.4 24:31.3	574275 574275	6.35303E+12 6.35303E+12	5.36343E+13 5.36343E+13	5366.28 5371.27	0.0216772 0.0216772	0.0160516 0.0160404	0.0746825 0.0747519	0.6706926 0.6706926	0.4966365 0.49629	2.276015 2.2781314	
111	29:34.0	574275	6.35303E+12	5.36343E+13	5369.89	0.0216772	0.0158588	0.0747327	0.6706926	0.4906713	2.2775461	
112	34:37.0	574277	6.35303E+12	5.50501E+13	5373.89	0.0216772	0.0200104	0.0728651	0.6706926	0.6191218	2.2206282	
113	39:39.9	574280	6.35303E+12	5.61893E+13	5386.3	0.0216772	0.0192174	0.0715525	0.6706926	0.5945864	2.1806275	
114	44:42.8 49:45.4	574281 574281	6.35303E+12 6.35303E+12	5.67946E+13 5.67946E+13	5376.94 5380.34	0.0216772 0.0216772	0.0172971 0.0171393	0.070667 0.0707117	0.6706926 0.6706926	0.5351723 0.5302899	2.1536405 2.1550023	
116	54:48.5	574282	6.35303E+12	5.6096E+13	5376.01	0.0216772	0.0171353	0.0715347	0.6706926	0.4169258	2.1800845	
117	59:51.6	574282	6.35303E+12	5.6096E+13	5379.99	0.0216772	0.0180308	0.0715877	0.6706926	0.557873	2.1816984	
118	04:54.7	574283	6.35303E+12	5.56063E+13	5387.53	0.0236157	0.0178982	0.0723193	0.7306698	0.5537703	2.2039945	
119 120	09:58.2 15:01.2	574283 574283	6.35303E+12 6.35303E+12	5.56063E+13 5.56063E+13	5404.49 5410.8	0.0236157 0.0236157	0.0199601 0.019843	0.0725469 0.0726316	0.7306698 0.7306698	0.6175655 0.6139424	2.2109326 2.213514	
121	20:04.6	574284	6.35303E+12	5.64188E+13	5402.18	0.0236157	0.0211652	0.0714716	0.7306698	0.6548513	2.1781617	
122	25:08.2	574284	6.35303E+12	5.64188E+13	5401.01	0.0236157	0.0207169	0.0714561	0.7306698	0.6409809	2.17769	
123	30:11.3	574285	6.35303E+12	5.57835E+13	5408.19	0.0236157	0.0202099	0.072366	0.7306698	0.6252943	2.2054203	
124 125	35:14.3 40:17.3	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5399.01 5401.14	0.0236157 0.0236157	0.0197121 0.0205203	0.0722432 0.0722717	0.7306698 0.7306698	0.6098924 0.6348981	2.2016767 2.2025453	
126	45:20.2	574285	6.35303E+12	5.57835E+13	5401.14	0.0236157	0.0203203	0.0722717	0.7306698	0.6266278	2.2025453	
127	50:23.3	574285	6.35303E+12	5.57835E+13	5404.01	0.0236157	0.0204966	0.0723101	0.7306698	0.6341648	2.2037157	2.2037157
128	55:26.4	574285	6.35303E+12	5.57835E+13	5402.66	0.0236157	0.0204779	0.072292	0.7306698	0.6335862	2.2031652	
129 130	00:29.5 05:32.6	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5405.56 5408.51	0.0246623 0.0246623	0.0205394 0.020696	0.0723309 0.0723703	0.7630516 0.7630516	0.635489 0.6403342	2.2043478 2.2055508	
131	10:35.6	574286	6.35303E+12	5.36818E+13	5410.26	0.0246623	0.0206614	0.0752279	0.7630516	0.6392637	2.2926386	
132	15:38.9	574287	6.35303E+12	5.50908E+13	5405.01	0.0246623	0.0206639	0.0732328	0.7630516	0.6393411	2.2318356	2.2318356
133	20:42.0	574287	6.35303E+12	5.50908E+13	5377.7	0.0246623	0.0207146	0.0728628	0.7630516	0.6409097	2.2205587	
134	25:45.3 30:48.4	574288 574289	6.35303E+12 6.35303E+12	5.6446E+13 5.61643E+13	5379.31 5386.34	0.0246623 0.0246623	0.0207073 0.0217617	0.0711347 0.071585	0.7630516 0.7630516	0.6406839 0.673307	2.1678941 2.1816166	
136	35:51.4	574289	6.35303E+12	5.61643E+13	5386.22	0.0246623	0.0217017	0.0715834	0.7630516	0.6757389	2.1810100	
137	40:54.5	574289	6.35303E+12	5.61643E+13	5380.96	0.0246623	0.0212653	0.0715135	0.7630516	0.6579484	2.1794376	
138	45:57.5	574289	6.35303E+12	5.61643E+13	5373.11	0.0246623	0.0218495	0.0714091	0.7630516	0.6760235	2.1762581	
139	51:00.5 56:03.8	574290 574293	6.35303E+12 6.35303E+12	5.56905E+13 5.63654E+13	5379.99 5381.68	0.0246623 0.0246623	0.0219329 0.0219044	0.0721089 0.0712679	0.7630516 0.7630516	0.6786039 0.6777221	2.1975834 2.1719525	
141	01:07.0	574294	6.35303E+12	5.66874E+13	5378.02	0.0258006	0.0213044	0.0708148	0.7982706	0.660569	2.1713323	
142	06:09.8	574295	6.35303E+12	5.71185E+13	5388.44	0.0258006	0.0215474	0.0704165	0.7982706	0.6666766	2.1460054	
143	11:12.8	574296	6.35303E+12	5.69506E+13	5391.26	0.0258006	0.0217122	0.070661	0.7982706	0.6717755	2.1534583	
144	16:15.8 21:19.0	574298 574298	6.35303E+12 6.35303E+12	5.77593E+13 5.77593E+13	5388.44 5388.43	0.0258006 0.0258006	0.0240987 0.0223207	0.0696352 0.0696351	0.7982706 0.7982706	0.7456138 0.6906025	2.1221966 2.1221927	
146	26:22.1	574298	6.35303E+12	5.77593E+13	5393.86	0.0258006	0.0257788	0.0697053	0.7982700	0.7975961	2.1243313	
147	31:25.5	574300	6.35303E+12	5.74492E+13	5390.38	0.0258006	0.0265151	0.0700363	0.7982706	0.8203772	2.13442	
148	36:29.7	574301	6.35303E+12	5.7613E+13	5391.27	0.0258006	0.0846763	0.0698488	0.7982706	2.6198847	2.1287047	
149 150	41:33.9 46:37.9	574301 574302	6.35303E+12 6.35303E+12	5.7613E+13 5.77583E+13	5391.2 5394.99	0.0258006 0.0258006	0.2210761 0.1570346	0.0698479 0.0697211	0.7982706 0.7982706	6.8400945 4.8586505	2.1286771 2.1248138	
151	51:42.1	574302	6.35303E+12	5.77583E+13	5394.99	0.0258006	0.1785148	0.0697211	0.7982706	5.5232479	2.1248138	
152	56:46.2	574305	6.35303E+12	5.8471E+13	5394.98	0.0258006	0.1762844	0.0688712	0.7982706	5.4542393	2.0989108	
153	01:50.2	574305 574305	6.35303E+12 6.35303E+12	5.8471E+13	5392.44	0.0281961	0.2198672	0.0688387 0.0688458	0.8723873	6.8026912	2.0979226	
154 155	06:53.7 11:56.7	574305	6.35303E+12 6.35303E+12	5.8471E+13 5.85526E+13	5392.99 5393.03	0.0281961 0.0281961	0.0379209 0.0282621	0.0687504	0.8723873 0.8723873	1.1732726 0.8744294	2.0981366 2.0952297	
156	17:00.1	574309	6.35303E+12	6.00748E+13	5396.48	0.0281961	0.0252831	0.0670512	0.8723873		2.0434454	
157	22:03.0	574309	6.35303E+12	6.00748E+13	5397.01	0.0281961	0.0261016	0.0670578	0.8723873	0.8075835	2.0436461	
158 159	27:06.2	574310 574311	6.35303E+12 6.35303E+12	6.02983E+13	5396.19	0.0281961 0.0281961	0.0259345	0.0667991 0.0670382		0.8024134 0.93475	2.0357628 2.0430488	
160	32:09.2 37:12.3	574311	6.35303E+12 6.35303E+12	6.01255E+13 6.01255E+13	5399.99 5396.83	0.0281961	0.0302117 0.0302065	0.0669989	0.8723873 0.8723873	0.93475	2.0430488	
161	42:16.0	574312	6.35303E+12	5.99055E+13	5396.6	0.0281961	0.0302581	0.0672421	0.8723873	0.9361856	2.0492645	2.0492645
162	47:18.9	574312	6.35303E+12	5.99055E+13	5395.6	0.0281961	0.0260237	0.0672297	0.8723873	0.8051733	2.0488848	
163 164	52:22.0 57:25.5	574315 574315	6.35303E+12 6.35303E+12	5.97623E+13 5.97623E+13	5391.32 5389.83	0.0281961 0.0281961	0.0287961 0.0262929	0.0673373 0.0673187	0.8723873 0.8723873	0.8909513 0.8135023	2.0521662 2.051599	
165	02:29.6	574316	6.35303E+12	5.95157E+13	5386.52	0.0281961	0.0262929	0.0675561	0.9256041	6.6173296	2.0588338	
166	07:32.4	574317	6.35303E+12	6.04051E+13	5388.05	0.0299161	0.0275251	0.0665804	0.9256041	0.8516266	2.0290984	2.0290984
167	12:36.3	574319	6.35303E+12	6.0775E+13	5393.81	0.0299161	0.2273591 0.0493661	0.0662458 0.064746		7.0344906	2.0189017	
168 169	17:39.2 22:42.0	574320 574320	6.35303E+12 6.35303E+12	6.21737E+13 6.21737E+13	5393.01 5402.48	0.0299161 0.0299161	0.0493661	0.064746	0.9256041 0.9256041	1.5273871 1.1609864	1.9731924 1.9766573	
170	27:44.8	574320	6.35303E+12	6.21737E+13	5407.98	0.0299161	0.0373238	0.0649257	0.9256041	0.9520145	1.9786696	
171	32:47.7	574321	6.35303E+12	6.17749E+13	5401.85	0.0299161	0.028391	0.0652708	0.9256041	0.8784175	1.9891864	1.9891864
172	37:50.6	574321	6.35303E+12	6.17749E+13	5405.27	0.0299161	0.0282624	0.0653121		0.8744387	1.9904458	
173 174	42:53.6 47:56.6	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5406.86 5408.61	0.0299161 0.0299161	0.0277909 0.0279723	0.0653313 0.0653525	0.9256041 0.9256041	0.8598504 0.865463	1.9910313 1.9916757	
175	52:59.4	574321	6.35303E+12	6.17749E+13	5414.93	0.0299161	0.0279723	0.0654288		0.8660446	1.994003	
176	58:02.4	574321	6.35303E+12	6.17749E+13	5402.69	0.0299161	0.026867	0.0652809	0.9256041	0.831265	1.9894957	1.9894957
177	03:05.3	574321	6.35303E+12	6.17749E+13	5391.74	0.0292659	0.0268991	0.0651486		0.8322582	1.9854634	
178 179	08:08.5 13:11.4	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5395.3 5397.89	0.0292659 0.0292659	0.0270222 0.0267872	0.0651917 0.065223	0.9054869 0.9054869	0.8360669 0.828796	1.9867744 1.9877281	
180	18:14.9	574321	6.35303E+12	6.17749E+13	5399.5	0.0292659	0.0267872	0.0652424		0.830872	1.988321	
181	23:17.9	574321	6.35303E+12	6.17749E+13	5394.06	0.0292659	0.0269768	0.0651767	0.9054869	0.8346622	1.9863178	1.9863178
182	28:20.8	574321	6.35303E+12	6.17749E+13	5393.44	0.0292659	0.0268761	0.0651692		0.8315465	1.9860895	
183 184	33:24.0 38:27.3	574322 574322	6.35303E+12 6.35303E+12	5.8824E+13 5.8824E+13	5394.4 5392.26	0.0292659 0.0292659	0.0268238 0.0261315	0.0684506 0.0684234		0.8299284 0.8085086	2.086093 2.0852655	
185	43:30.4	574323	6.35303E+12	5.85421E+13	5392.20	0.0292659	0.0261313	0.0687599	0.9054869	0.8499032	2.0955189	
186	48:33.4	574323	6.35303E+12	5.85421E+13	5397.13	0.0292659	0.0267346	0.068815	0.9054869	0.8271685	2.0971976	2.0971976
187	53:36.4	574323	6.35303E+12	5.85421E+13	5402.13	0.0292659	0.0276262	0.0688787	0.9054869	0.8547546	2.0991404	
188 189	58:39.2 03:42.1	574326 574326	6.35303E+12 6.35303E+12	5.98016E+13 5.98016E+13	5403.36 5402.78	0.0292659 0.030273	0.0304034 0.0359978	0.0674434 0.0674361			2.0553977 2.0551771	

1 (A datetime b	B block_height i	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	H breakeven_mining_cost	l day_ahead_LMP_rev	real time LMP rev	K mining_rev	L realized rev
190	08:45.0	574327	6.35303E+12	5.96067E+13	5401.47	0.030273	0.0287712	0.0676402	0.9366466	0.8901809	2.0613959	2.0613959
191	13:48.1	574327	6.35303E+12	5.96067E+13	5402.02	0.030273	0.0276182	0.0676471	0.9366466	0.8545071	2.0616058	2.0616058
192	18:51.1	574328	6.35303E+12	5.96752E+13 5.96752E+13	5405.01	0.030273	0.0258534	0.0676069	0.9366466	0.7999042	2.0603812	2.0603812
193 194	23:54.0 28:57.0	574328 574328	6.35303E+12 6.35303E+12	5.96752E+13 5.96752E+13	5405.54 5411.23	0.030273 0.030273	0.0273201 0.0271151	0.0676135 0.0676847	0.9366466 0.9366466	0.8452839 0.8389412	2.0605832 2.0627523	2.0605832 2.0627523
195	34:00.5	574329	6.35303E+12	5.94855E+13	5414.16	0.030273	0.0272609	0.0679373	0.9366466	0.8434522	2.0704516	2.0704516
196	39:03.4	574330	6.35303E+12	5.97035E+13	5414.16	0.030273	0.0272442	0.0676893	0.9366466	0.8429355	2.0628912	2.0628912
197 198	44:06.6 49:10.2	574331 574333	6.35303E+12 6.35303E+12	5.96567E+13 5.9734E+13	5414.18 5407.51	0.030273 0.030273	0.0259561 0.0270756	0.0677426 0.0675716	0.9366466 0.9366466	0.8030817 0.8377191	2.0645162 2.0593055	2.0645162 2.0593055
199	54:13.3	574333	6.35303E+12	5.9734E+13	5400.01	0.030273	0.0271004	0.0674779	0.9366466	0.8384864	2.0564494	2.0564494
200	59:16.4	574334	6.35303E+12	5.92562E+13	5403.78	0.030273	0.0273779	0.0680695	0.9366466	0.8470722	2.0744785	2.0744785
201	04:19.8	574335	6.35303E+12	5.9018E+13	5401.4	0.0290851	0.0283554	0.0683141	0.899893	0.8773161	2.0819329	2.0819329
202	09:23.3 14:26.3	574335 574337	6.35303E+12 6.35303E+12	5.9018E+13 6.04407E+13	5400.65 5403.84	0.0290851 0.0290851	0.0271462 0.0271793	0.0683046 0.0667361	0.899893 0.899893	0.8399034 0.8409275	2.0816439 2.0338434	2.0816439 2.0338434
204	19:29.7	574338	6.35303E+12	6.00814E+13	5403.99	0.0290851	0.0269492	0.0671371	0.899893	0.8338082	2.0460639	2.0460639
205	24:32.5	574341	6.35303E+12	6.05704E+13	5406.15	0.0290851	0.0265213	0.0666217	0.899893	0.820569	2.0303561	2.0303561
206	29:35.5 34:38.6	574342 574343	6.35303E+12 6.35303E+12	6.0482E+13 5.99395E+13	5405.72 5402.02	0.0290851 0.0290851	0.0269952 0.0260047	0.0667137 0.0672715	0.899893 0.899893	0.8352315 0.8045854	2.0331615 2.0501593	2.0331615 2.0501593
208	39:41.6	574343	6.35303E+12	5.99395E+13	5399.38	0.0290851	0.0266287	0.0672713	0.899893	0.823892	2.0301393	2.0301393
209	44:44.4	574344	6.35303E+12	5.95861E+13	5399.01	0.0290851	0.0265012	0.0676328	0.899893	0.8199471	2.0611697	2.0611697
210	49:47.3	574344	6.35303E+12	5.95861E+13	5394.85	0.0290851	0.0271631	0.0675807	0.899893	0.8404263	2.0595816	2.0595816
211	54:50.3 59:53.1	574344 574344	6.35303E+12 6.35303E+12	5.95861E+13 5.95861E+13	5396.47 5398.44	0.0290851 0.0290851	0.0265076 0.0266994	0.067601 0.0676256	0.899893 0.899893	0.8201451 0.8260794	2.0602 2.0609521	2.0602 2.0609521
213	04:56.9	574344	6.35303E+12	5.84022E+13	5394.51	0.0290831	0.2274043	0.0689463	0.8718892	7.035889	2.1012014	7.035889
214	10:00.6	574347	6.35303E+12	5.86008E+13	5393.4	0.02818	0.0269004	0.0686985	0.8718892	0.8322984	2.0936499	2.0936499
215	15:04.1	574347	6.35303E+12	5.86008E+13	5397.48	0.02818	0.026967	0.0687505	0.8718892	0.834359	2.0952337	2.0952337
216 217	20:07.3 25:10.3	574348 574348	6.35303E+12 6.35303E+12	5.87322E+13 5.87322E+13	5396.99 5396.15	0.02818 0.02818	0.0271281 0.0268342	0.0685905 0.0685798	0.8718892 0.8718892	0.8393434 0.8302501	2.0903567 2.0900313	2.0903567 2.0900313
218	30:14.9	574349	6.35303E+12	5.84595E+13	5395.98	0.02818	0.226576	0.0688975	0.8718892	7.0102614	2.0900313	7.0102614
219	35:17.9	574350	6.35303E+12	5.91267E+13	5396.77	0.02818	0.0272473	0.06813	0.8718892	0.8430315	2.0763241	2.0763241
220 221	40:20.9 45:24.0	574350 574351	6.35303E+12 6.35303E+12	5.91267E+13 5.92508E+13	5395.88 5395.8	0.02818 0.02818	0.024981 0.0257123	0.0681188 0.0679751	0.8718892 0.8718892	0.7729121 0.7955386	2.0759816 2.0716025	2.0759816 2.0716025
221	50:27.1	574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5395.8	0.02818	0.025/123	0.0679751	0.8718892	0.7955386	2.0716025	2.0715025
223	55:30.2	574351	6.35303E+12	5.92508E+13	5392.02	0.02818	0.0251479	0.0679275	0.8718892	0.778076	2.0701512	2.0701512
224	00:33.0	574351	6.35303E+12	5.92508E+13	5390.01	0.0294406	0.0252162	0.0679022	0.9108922	0.7801892	2.0693795	2.0693795
225 226	05:35.8 10:38.7	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5365.12 5371.99	0.0294406 0.0294406	0.0226972 0.0227666	0.0675886 0.0676752	0.9108922 0.9108922	0.7022514 0.7043986	2.0598235 2.0624611	2.0598235 2.0624611
227	15:41.6	574351	6.35303E+12	5.92508E+13	5379.7	0.0294406	0.0243866	0.0677723	0.9108922	0.7545214	2.0654212	2.0654212
228	20:44.5	574353	6.35303E+12	5.95341E+13	5378.3	0.0294406	0.0230678	0.0674322	0.9108922	0.7137177	2.0550568	2.0550568
229	25:47.5	574353	6.35303E+12	5.95341E+13	5381.03	0.0294406	0.0249763	0.0674664	0.9108922	0.7727667	2.0560999	2.0560999
230	30:50.5 35:53.6	574353 574353	6.35303E+12 6.35303E+12	5.95341E+13 5.95341E+13	5392.25 5394.16	0.0294406 0.0294406	0.0253991 0.0253424	0.0676071 0.067631	0.9108922 0.9108922	0.7858482 0.7840939	2.0603871 2.0611169	2.0603871 2.0611169
232	40:56.7	574353	6.35303E+12	5.95341E+13	5399.99	0.0294406	0.0250223	0.0677041	0.9108922	0.77419	2.0633446	2.0633446
233	45:59.6	574356	6.35303E+12	6.01278E+13	5396.88	0.0294406	0.0234576	0.0669971	0.9108922	0.7257781	2.0417971	2.0417971
234	51:02.7 56:05.8	574356 574356	6.35303E+12 6.35303E+12	6.01278E+13 6.01278E+13	5394.77 5402.4	0.0294406 0.0294406	0.0249344 0.022081	0.0669709 0.0670656	0.9108922 0.9108922	0.7714703 0.6831861	2.0409989 2.0438855	2.0409989 2.0438855
236	01:08.8	574357	6.35303E+12	5.98782E+13	5407.57	0.0294406	0.0219246	0.0674096	1.1090567	0.6783471	2.0438694	2.0438633
237	06:12.1	574357	6.35303E+12	5.98782E+13	5412.01	0.0358454	0.0217059	0.067465	1.1090567	0.6715805	2.0560562	2.0560562
238	11:15.1	574359	6.35303E+12	5.99023E+13	5413.47	0.0358454	0.0219481	0.067456	1.1090567	0.6790742	2.0557835	2.0557835
239	16:18.2 21:21.3	574360 574360	6.35303E+12 6.35303E+12	6.0023E+13 6.0023E+13	5411.11 5411.03	0.0358454 0.0358454	0.0220348 0.0228761	0.0672909 0.0672899	1.1090567 1.1090567	0.6817567 0.7077865	2.0507521 2.0507217	2.0507521 2.0507217
241	26:24.5	574360	6.35303E+12	6.0023E+13	5403.73	0.0358454	0.0226145	0.0671992	1.1090567	0.6996926	2.0479551	2.0479551
242	31:27.6	574361	6.35303E+12	5.95038E+13	5407.93	0.0358454	0.0246405	0.0678382	1.1090567	0.7623771	2.0674304	2.0674304
243	36:30.8 41:34.3	574361 574362	6.35303E+12 6.35303E+12	5.95038E+13 5.87448E+13	5411.14 5422.09	0.0358454 0.0358454	0.0360477 0.0239492	0.0678785 0.0688946	1.1090567 1.1090567	1.1153158 0.7409882	2.0686576	2.0686576 2.0996263
245	46:37.4	574362	6.35303E+12	5.87448E+13	5435.74	0.0358454	0.0225539	0.0690681	1.1090567	0.6978177	2.1049121	2.1049121
246	51:40.5	574362	6.35303E+12	5.87448E+13	5435.55	0.0358454	0.0241469	0.0690657	1.1090567	0.7471051	2.1048385	2.1048385
247 248	56:43.6 01:47.3	574363 574363	6.35303E+12 6.35303E+12	5.80502E+13 5.80502E+13	5427.15 5428.1	0.0358454 0.0269617	0.0327231 0.0483081	0.0697841 0.0697964	1.1090567 0.834195	1.0124527 1.4946526	2.1267343 2.1271066	2.1267343 2.1271066
249	06:50.1	574364	6.35303E+12	5.78645E+13	5441.31	0.0269617	0.0434265	0.0701907	0.834195	1.3436159	2.1271000	2.1271066
250	11:53.2	574364	6.35303E+12	5.78645E+13	5428.95	0.0269617	0.0243957	0.0700313	0.834195	0.754803	2.1342664	2.1342664
251	16:56.5	574367	6.35303E+12	5.84533E+13	5433.74	0.0269617	0.0247673	0.069387	0.834195	0.7663003	2.1146321	2.1146321
252 253	21:59.8 27:03.6	574367 574368	6.35303E+12 6.35303E+12	5.84533E+13 5.81378E+13	5439.23 5433.99	0.0269617 0.0269617	0.0232371 0.0215394	0.0694571 0.0697668	0.834195 0.834195	0.7189559 0.666429	2.1167686 2.1262058	2.1167686 2.1262058
254	32:06.7	574368	6.35303E+12	5.81378E+13	5443.02	0.0269617	0.0213334	0.0698827	0.834195	0.6567974	2.1202038	2.1202038
255	37:09.8	574369	6.35303E+12	5.7527E+13	5441.82	0.0269617	0.0207248	0.0706092	0.834195	0.6412253	2.1518775	2.1518775
256 257	42:13.0 47:16.2	574370 574370	6.35303E+12 6.35303E+12	5.73316E+13 5.73316E+13	5444.99 5471.73	0.0269617 0.0269617	0.0200896 0.0200075	0.0708911 0.0712392	0.834195 0.834195	0.6215722 0.6190321	2.1604697 2.1710796	2.1604697 2.1710796
258	52:19.8	574370	6.35303E+12	5.73316E+13	5464.57	0.0269617	0.0196461	0.0712392	0.834195	0.6078503	2.1710796	2.1710796
259	57:22.8	574373	6.35303E+12	5.75391E+13	5469.53	0.0269617	0.0199141	0.0709537	0.834195	0.6161423	2.162379	2.162379
260	02:26.3	574373	6.35303E+12	5.75391E+13	5466.18	0.0207707	0.0196095	0.0709103	0.6426455	0.6067179	2.1610546	2.1610546
261 262	07:29.4 12:32.4	574373 574374	6.35303E+12 6.35303E+12	5.75391E+13 5.70787E+13	5468.2 5462.25	0.0207707 0.0207707	0.0193582 0.019736	0.0709365 0.0714308	0.6426455 0.6426455	0.5989427 0.6106318	2.1618532 2.1769189	2.1618532 2.1769189
263	17:35.9	574375	6.35303E+12	5.67247E+13	5457.26	0.0207707	0.0194616	0.0718109	0.6426455	0.6021419	2.1885032	2.1885032
264	22:38.8	574376	6.35303E+12	5.68162E+13	5459.27	0.0207707	0.021469	0.0717217	0.6426455	0.6642509	2.185782	2.185782
265 266	27:41.6 32:44.5	574376 574377	6.35303E+12 6.35303E+12	5.68162E+13 5.63276E+13	5455.91 5456.06	0.0207707 0.0207707	0.0195687 0.0197946	0.0716775 0.0723014	0.6426455 0.6426455	0.6054556 0.6124449	2.1844367 2.2034492	2.1844367 2.2034492
267	37:47.4	574377	6.35303E+12	5.63276E+13	5461.19	0.0207707	0.0197946	0.0723693	0.6426455	0.6804665	2.205521	2.205521
268	42:50.1	574377	6.35303E+12	5.63276E+13	5464.3	0.0207707	0.0213058	0.0724106	0.6426455	0.6592015	2.206777	2.206777
269	47:53.0	574378	6.35303E+12	5.65074E+13	5471.12	0.0207707	0.0213015	0.0722702	0.6426455	0.6590684	2.2024995	2.2024995
270 271	52:55.9 57:58.7	574378 574378	6.35303E+12 6.35303E+12	5.65074E+13 5.65074E+13	5465.8 5467.45	0.0207707 0.0207707	0.0208578 0.0197404	0.0721999 0.0722217	0.6426455 0.6426455	0.6453403 0.610768	2.2003578 2.2010221	2.2003578 2.2010221
272	03:32.3	574384	6.35303E+12	5.65611E+13	5475.82	0.0180828	0.0137404	0.0722636	0.5594818	0.5823217	2.2010221	2.2010221
273	08:35.1	574384	6.35303E+12	5.65611E+13	5472.78	0.0180828	0.0187888	0.0722235	0.5594818	0.5813255	2.2010766	2.2010766
274	13:38.2	574384	6.35303E+12	5.65611E+13	5477.51	0.0180828	0.0188459	0.0722859	0.5594818	0.5830921	2.2029789	2.2029789
275 276	18:41.2 23:44.5	574384 574384	6.35303E+12 6.35303E+12	5.65611E+13 5.65611E+13	5475.27 5485.01	0.0180828 0.0180828	0.0184952 0.0183313	0.0722564 0.0723849	0.5594818 0.5594818	0.5722415 0.5671704	2.202078 2.2059953	2.202078 2.2059953
277	28:47.4	574385	6.35303E+12	5.52675E+13	5483.01	0.0180828	0.0183313	0.0725849	0.5594818	0.5569974	2.2568058	2.2568058
278	33:50.3	574386	6.35303E+12	5.5002E+13	5487.35	0.0180828	0.0182859	0.0744685	0.5594818	0.5657657	2.2694951	2.2694951
279	38:53.3	574386	6.35303E+12	5.5002E+13	5489.7	0.0180828	0.0187295	0.0745004	0.5594818	0.5794907	2.270467	2.270467
280	43:56.2 48:59.1	574387 574387	6.35303E+12 6.35303E+12	5.4816E+13 5.4816E+13	5485.01 5494.56	0.0180828 0.0180828	0.0183101 0.0184541	0.0746893 0.0748194	0.5594818 0.5594818	0.5665145 0.5709699	2.2762247 2.2801879	2.2762247 2.2801879
281			6.35303E+12	5.4816E+13	5496.86	0.0180828	0.0184113	0.0748507	0.5594818	0.5696456	2.2811424	2.2811424
281 282	54:02.0	574387	0.33303L+12	J.4010L+13	3 130.00	0.0100010	0.010 1110			0.5050150	2.2011424	2.2011727

	Α	В	C	D	E	F	G	Н		J	K	L
-			network_diff			day_ahead_LMP			day_ahead_LMP_rev	real_time_LMP_rev	mining_rev	realized_rev
284 285	04:07.9 09:11.2	574388 574388	6.35303E+12 6.35303E+12	5.41076E+13 5.41076E+13	5492.55 5499.47	0.0171198 0.0171198	0.0184116 0.018402	0.0757711 0.0758666	0.5296866 0.5296866	0.5696549 0.5693579	2.3091936 2.3121029	2.3091936 2.3121029
286	14:14.7	574390	6.35303E+12	5.36713E+13	5497.38	0.0171198	0.018402	0.0764543	0.5296866	0.5692682	2.3321029	2.3321023
287	19:17.4	574393	6.35303E+12	5.4543E+13	5505.67	0.0171198	0.0188975	0.0753459	0.5296866	0.5846887	2.296235	2.296235
288	24:20.4	574393	6.35303E+12	5.4543E+13	5525.72	0.0171198	0.0194457	0.0756203	0.5296866	0.60165	2.3045972	2.3045972
289	29:23.6	574393	6.35303E+12	5.4543E+13	5532.69	0.0171198	0.0193998	0.0757157	0.5296866	0.6002298	2.3075042	2.3075042
290	34:27.1	574393	6.35303E+12	5.4543E+13	5548.77	0.0171198	0.0195967	0.0759358	0.5296866	0.6063219	2.3142106	2.3142106
291 292	39:30.2 44:33.4	574394 574395	6.35303E+12 6.35303E+12	5.38779E+13 5.53825E+13	5540.68 5512.91	0.0171198 0.0171198	0.0195476 0.0198241	0.076761 0.0743014	0.5296866 0.5296866	0.6048027 0.6133577	2.3393597	2.3393597 2.2644017
292	49:36.3	574395	6.35303E+12	5.53825E+13 5.53825E+13	5512.91	0.0171198	0.0198241	0.0743014	0.5296866	0.6133577	2.2691746	2.2691746
294	54:39.3	574395	6.35303E+12	5.53825E+13	5525.3	0.0171198	0.0195692	0.0744684	0.5296866	0.605471	2.2694909	2.2694909
295	59:42.3	574395	6.35303E+12	5.53825E+13	5518.69	0.0171198	0.0192178	0.0743793	0.5296866	0.5945987	2.2667759	2.2667759
296	04:45.3	574395	6.35303E+12	5.53825E+13	5533.7	0.0177576	0.0191891	0.0745816	0.5494201	0.5937108	2.2729411	2.2729411
297	09:48.1	574395	6.35303E+12	5.53825E+13	5530.29	0.0177576	0.0191378	0.0745356	0.5494201	0.5921235	2.2715405	2.2715405
298	14:51.2	574396	6.35303E+12	5.44713E+13	5534.64	0.0177576	0.0189612	0.0758421	0.5494201	0.5866595	2.3113551	2.3113551
299 300	19:54.1 24:57.0	574396 574396	6.35303E+12 6.35303E+12	5.44713E+13 5.44713E+13	5544.31 5549.76	0.0177576 0.0177576	0.0189168 0.018934	0.0759746 0.0760493	0.5494201 0.5494201	0.5852858 0.585818	2.3153934 2.3176694	2.3153934 2.3176694
301	30:00.1	574397	6.35303E+12	5.38389E+13	5535.92	0.0177576	0.018934	0.0767506	0.5494201	0.5886954	2.3390422	2.3390422
302	35:03.1	574397	6.35303E+12	5.38389E+13	5548.11	0.0177576	0.0186692	0.0769196	0.5494201	0.577625	2.3441927	2.3441927
303	40:06.4	574397	6.35303E+12	5.38389E+13	5576.84	0.0177576	0.0189082	0.0773179	0.5494201	0.5850197	2.3563317	2.3563317
304	45:09.5	574397	6.35303E+12	5.38389E+13	5588.49	0.0177576	0.0188137	0.0774794	0.5494201	0.5820959	2.3612541	2.3612541
305	50:12.8	574397	6.35303E+12	5.38389E+13	5580.14	0.0177576	0.0194016	0.0773636	0.5494201	0.6002855	2.3577261	2.3577261
306	55:16.0	574397	6.35303E+12	5.38389E+13	5584.03	0.0177576	0.0194473	0.0774176	0.5494201	0.6016995	2.3593697	2.3593697
307 308	00:19.0 05:22.0	574398 574399	6.35303E+12 6.35303E+12	5.24135E+13 5.22154E+13	5587.36 5575.01	0.0179634 0.0179634	0.0194473 0.0198978	0.0795704 0.0796957	0.5557876 0.5557876	0.6016995 0.6156379	2.4249801 2.4287994	2.4249801 2.4287994
308	10:25.0	574400	6.35303E+12	5.22154E+13 5.19602E+13	5558.15	0.0179634	0.0198978	0.079845	0.5557876	0.6156379	2.4287994	2.4287994
310	15:28.5	574400	6.35303E+12	5.19602E+13	5577.5	0.0179634	0.0197937	0.0801229	0.5557876	0.6124171	2.4418187	2.4418187
311	20:31.4	574400	6.35303E+12	5.19602E+13	5579.19	0.0179634	0.019798	0.0801472	0.5557876	0.6125501	2.4425586	2.4425586
312	25:34.2	574401	6.35303E+12	5.14241E+13	5571.72	0.0179634	0.0199501	0.0808744	0.5557876	0.6172561	2.4647197	2.4647197
313	30:37.1	574401	6.35303E+12	5.14241E+13	5570.01	0.0179634	0.0199163	0.0808496	0.5557876	0.6162103	2.4639632	2.4639632
314	35:40.1	574402	6.35303E+12	5.15991E+13	5590.6	0.0179634	0.0206372	0.0808732	0.5557876	0.638515	2.4646821 2.4736097	2.4646821
315 316	40:43.0 45:45.9	574403 574404	6.35303E+12 6.35303E+12	5.16659E+13 5.22163E+13	5618.11 5610.56	0.0179634 0.0179634	0.0201332 0.0220943	0.0811661 0.0802027	0.5557876 0.5557876	0.6229212 0.6835976	2.4736097	2.4736097 2.444248
317	50:48.6	574404	6.35303E+12	5.44332E+13	5659.03	0.0179634	0.0220943	0.0776008	0.5557876	0.6245456	2.3649536	2.3649536
318	55:51.5	574406	6.35303E+12	5.44332E+13	5657.45	0.0179634	0.0201063	0.0775791	0.5557876	0.6220889	2.3642933	2.3642933
319	00:54.3	574407	6.35303E+12	5.44179E+13	5681.44	0.0187756	0.0190108	0.0779301	0.5809171	0.5881942	2.3749899	2.3749899
320	05:57.2	574408	6.35303E+12	5.43366E+13	5664.77	0.0187756	0.0196478	0.0778177	0.5809171	0.6079029	2.3715634	2.3715634
321	11:00.1	574409	6.35303E+12	5.45039E+13	5675.15	0.0187756	0.019932	0.0777209	0.5809171	0.6166961	2.368615	2.368615
322 323	16:03.5 21:07.1	574409 574409	6.35303E+12 6.35303E+12	5.45039E+13 5.45039E+13	5712.4 5686.74	0.0187756 0.0187756	0.0201859 0.0225242	0.0782311 0.0778796	0.5809171 0.5809171	0.6245517 0.6968987	2.3841619	2.3841619 2.3734522
324	26:10.3	574410	6.35303E+12	5.4739E+13	5682.68	0.0187756	0.0206965	0.0774898	0.5809171	0.6403497	2.3615721	2.3615721
325	31:13.5	574410	6.35303E+12	5.4739E+13	5696.73	0.0187756	0.0215966	0.0776814	0.5809171	0.6681988	2.3674109	2.3674109
326	36:16.9	574410	6.35303E+12	5.4739E+13	5721.55	0.0187756	0.0216764	0.0780199	0.5809171	0.6706678	2.3777254	2.3777254
327	41:19.9	574410	6.35303E+12	5.4739E+13	5723.36	0.0187756	0.0214227	0.0780445	0.5809171	0.6628183	2.3784776	2.3784776
328	46:23.0	574410	6.35303E+12	5.4739E+13	5753.44	0.0187756	0.0229512	0.0784547	0.5809171	0.7101101	2.3909781	2.3909781
329 330	51:26.1 56:29.0	574410 574412	6.35303E+12 6.35303E+12	5.4739E+13 5.33495E+13	5751.61 5783.15	0.0187756 0.0187756	0.0234893 0.0444265	0.0784298 0.0809138	0.5809171 0.5809171	0.7267589 1.3745559	2.3902176 2.465921	2.3902176 2.465921
331	01:31.9	574412	6.35303E+12	5.33495E+13	5778.34	0.0187736	0.0250626	0.0808465	0.7310967	0.7754368	2.463921	2.463921
332	06:34.9	574412	6.35303E+12	5.33495E+13	5717.03	0.0236295	0.0224619	0.0799887	0.7310967	0.6949712	2.4377276	2.4377276
333	11:38.0	574412	6.35303E+12	5.33495E+13	5720.45	0.0236295	0.0232839	0.0800365	0.7310967	0.7204039	2.4391858	2.4391858
334	16:40.9	574413	6.35303E+12	5.25253E+13	5714.68	0.0236295	0.0234838	0.0812103	0.7310967	0.7265888	2.4749582	2.4749582
335	21:43.7	574413	6.35303E+12	5.25253E+13	5731.49	0.0236295	0.0221746	0.0814492	0.7310967	0.6860821 0.788707	2.4822384	2.4822384
336 337	26:46.8 31:50.0	574413 574414	6.35303E+12 6.35303E+12	5.25253E+13 5.19701E+13	5723.09 5734.99	0.0236295 0.0236295	0.0254915 0.0253002	0.0813299 0.0823697	0.7310967 0.7310967	0.788707	2.4786004 2.5102894	2.4786004 2.5102894
338	36:53.0	574414	6.35303E+12	5.19701E+13	5744.23	0.0236295	0.0255777	0.0825024	0.7310967	0.791374	2.5102834	2.5102834
339	41:56.0	574416	6.35303E+12	5.19215E+13	5727.36	0.0236295	0.0254854	0.0823371	0.7310967	0.7885183	2.5092973	2.5092973
340	46:59.2	574418	6.35303E+12	5.19586E+13	5734.35	0.0236295	0.0224637	0.0823788	0.7310967	0.6950269	2.510567	2.510567
341	52:02.0	574420	6.35303E+12	5.25895E+13	5710.56	0.0236295	0.036317	0.0810529	0.7310967	1.123648	2.4701587	2.4701587
342	57:05.3	574421	6.35303E+12	5.25734E+13	5677.64	0.0236295	0.023519	0.0806102	0.7310967	0.7276779		2.4566683
343 344	02:08.1 07:11.0	574422 574423	6.35303E+12	5.2543E+13 5.29406E+13	5686.55 5686.98	0.0268916 0.0268916	0.0219254 0.0218438	0.0807834 0.0801828	0.8320261 0.8320261	0.6783719 0.6758472	2.4619458 2.4436417	2.4619458 2.4436417
344	12:13.8	574423	6.35303E+12 6.35303E+12	5.29406E+13 5.28202E+13	5690.22	0.0268916	0.0218438	0.0801828	0.8320261	0.6780996		2.4436417
346	17:16.6	574424	6.35303E+12	5.28202E+13	5676.93	0.0268916	0.0219100	0.0802235	0.8320261	0.875602	2.4448842	2.4448842
347	22:19.5	574426	6.35303E+12	5.30049E+13	5683.45	0.0268916	0.0487112	0.0800358	0.8320261	1.5071245	2.4391635	2.4391635
348	27:23.6	574426	6.35303E+12	5.30049E+13	5679.11	0.0268916	0.2372194	0.0799747	0.8320261	7.3395682	2.4373009	7.3395682
349	32:27.6	574427	6.35303E+12	5.28466E+13	5693.6	0.0268916	0.2295848	0.0804189	0.8320261	7.1033537	2.4508373	7.1033537
350 351	37:30.4 42:33.4	574427 574428	6.35303E+12 6.35303E+12	5.28466E+13 5.2354E+13	5702.84 5719.96	0.0268916 0.0268916	0.0489678 0.0279098	0.0805494 0.0815514	0.8320261 0.8320261	1.5150637 0.8635292	2.4548147 2.4853515	2.4548147 2.4853515
352	47:36.4	574428	6.35303E+12	5.2354E+13 5.2354E+13	5719.96	0.0268916	0.0279098	0.0815986	0.8320261	0.8723873	2.4853515	2.4853515
353	52:39.2	574428	6.35303E+12	5.2354E+13	5713.35	0.0268916	0.0284418	0.0814571	0.8320261	0.8799893		2.4824794
354	57:41.9	574429	6.35303E+12	5.15634E+13	5701.89	0.0268916	0.0240122	0.0825403	0.8320261	0.7429375		2.5154886
355	02:44.8	574429	6.35303E+12	5.15634E+13	5699.76	0.0275399	0.0225376	0.0825094	0.8520845	0.6973133	2.5145489	2.5145489
356	07:47.7	574429	6.35303E+12	5.15634E+13	5710.93	0.0275399	0.0233152	0.0826711	0.8520845	0.7213723		2.5194768
357 358	12:50.6 17:53.7	574430 574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5715.01 5705.63	0.0275399 0.0275399	0.0234875 0.0238366	0.0831849 0.0830483	0.8520845 0.8520845	0.7267033 0.7375044	2.5351334 2.5309725	2.5351334 2.5309725
358	22:56.5	574430	6.35303E+12 6.35303E+12	5.12815E+13 5.12815E+13	5705.63	0.0275399	0.0238366	0.0830483	0.8520845	0.7375044		2.5309725
360	27:59.5	574430	6.35303E+12	5.12815E+13	5735.12	0.0275399	0.0239167	0.0834776	0.8520845	0.7399827	2.544054	2.544054
361	33:02.8	574430	6.35303E+12	5.12815E+13	5742.14	0.0275399	0.024794	0.0835797	0.8520845	0.7671264		2.547168
362	38:06.1	574430	6.35303E+12	5.12815E+13	5731.9	0.0275399	0.0244682	0.0834307	0.8520845	0.7570461	2.5426257	2.5426257
363	43:09.2	574430	6.35303E+12	5.12815E+13	5731.35	0.0275399	0.0248106	0.0834227	0.8520845	0.76764		2.5423817
364 365	48:12.0 53:15.1	574430 574432	6.35303E+12 6.35303E+12	5.12815E+13 4.99455E+13	5726.26 5722.76	0.0275399 0.0275399	0.047908 0.0287109	0.0833486 0.0855259	0.8520845 0.8520845	1.4822735 0.8883152		2.5401238 2.6064774
366	58:15.1	574432 574432	6.35303E+12 6.35303E+12	4.99455E+13 4.99455E+13	5722.76	0.0275399	0.0287109	0.085259	0.8520845 0.8520845	1.4749995	2.5988986	2.5988986
367	03:21.0	574433	6.35303E+12	4.98413E+13	5718.48	0.027516	0.0268482	0.0856405	0.851345	0.8306833		2.6099708
368	08:24.1	574435	6.35303E+12	4.97656E+13	5722.49	0.027516	0.0239382	0.085831	0.851345	0.7406479		2.6157766
369	13:27.6	574435	6.35303E+12	4.97656E+13	5731.99	0.027516	0.024889	0.0859735	0.851345	0.7700657	2.6201191	2.6201191
370	18:31.2	574437	6.35303E+12	4.98823E+13	5729.41	0.027516	0.0274338	0.0857336	0.851345	0.8488018	2.61281	2.61281
371	23:34.4	574438	6.35303E+12	4.9928E+13	5727.98	0.027516	0.0263334	0.0856339	0.851345	0.8147554		2.6097702
372 373	28:37.4 33:41.0	574438 574441	6.35303E+12 6.35303E+12	4.9928E+13 5.04581E+13	5745.01 5733.7	0.027516 0.027516	0.0483259 0.027147	0.0858885 0.0848189	0.851345 0.851345	1.4952033 0.8399282	2.6175294 2.5849309	2.6175294 2.5849309
	38:43.9	574441	6.35303E+12	5.04581E+13	5748.11	0.027516	0.0269173	0.085032	0.851345	0.8328213		2.5914274
374			6.35303E+12	5.28842E+13	5748.64	0.027516	0.048425	0.0811386	0.851345	1.4982695		2.4727723
374 375	43:47.1	574442	0.555052112	5,200,122,15								
374	43:47.1 48:50.4 53:53.5	574442 574442 574442	6.35303E+12 6.35303E+12	5.28842E+13 5.28842E+13	5745.02 5746.74	0.027516 0.027516	0.0346966 0.026743	0.0810875 0.0811118	0.851345 0.851345	1.0735128 0.8274284		2.4712151 2.471955

_		_	_	_		_	_					
H	A	В	C	D	E	F	G	H		J	K	L
1	datetime	block_height	_		BTC_price	day_ahead_LMP	real_time_LMP		day_ahead_LMP_rev		mining_rev	realized_rev
378	58:56.5	574443	6.35303E+12	5.28228E+13	5739.99	0.027516	0.0256215	0.0811107	0.851345	0.7927292	2.4719226	2.4719226
379	03:59.3		6.35303E+12	5.28228E+13	5735.16	0.0300224	0.0258636	0.0810425	0.9288931	0.8002198	2.4698426	2.4698426
380	09:02.7	574443	0.00000	5.28228E+13	5751.51	0.0300224	0.0247336	0.0812735	0.9288931	0.7652576	2.4768837	2.4768837
381	14:05.7	574443	6.35303E+12	5.28228E+13	5760.39	0.0300224	0.0249539	0.081399	0.9288931	0.7720737	2.4807079	2.4807079
382	19:09.0	574443	6.35303E+12	5.28228E+13	5759.7	0.0300224	0.0252528	0.0813893	0.9288931	0.7813216	2.4804107	2.4804107
383	24:12.2	574444	6.35303E+12	5.21447E+13	5765.94	0.0300224	0.0251079	0.0825368	0.9288931	0.7768384	2.5153845	2.5153845
384	29:15.1	574445	6.35303E+12	5.19166E+13	5760.01	0.0300224	0.028066	0.0828144	0.9288931	0.868362	2.5238421	2.5238421
385	34:18.0	574446	6.35303E+12	5.17083E+13	5752.55	0.0300224	0.0345945	0.0830402	0.9288931	1.0703538	2.5307244	2.5307244
386	39:20.9	574446	6.35303E+12	5.17083E+13	5767.39	0.0300224	0.0278833	0.0832544	0.9288931	0.8627093	2.537253	2.537253
387	44:23.9	574446	6.35303E+12	5.17083E+13	5759.99	0.0300224	0.0266611	0.0831476	0.9288931	0.8248944	2.5339975	2.5339975
388	49:26.8	574448	6.35303E+12	5.19511E+13	5756.94	0.0300224	0.0267976	0.0827151	0.9288931	0.8291177	2.5208172	2.5208172
389	54:30.1	574448	6.35303E+12	5.19511E+13	5735.1	0.0300224	0.0267019	0.0824013	0.9288931	0.8261568	2.511254	2.511254
390	59:33.0	574448	6.35303E+12	5.19511E+13	5719.45	0.0300224	0.0300539	0.0821764	0.9288931	0.9298677	2.5044012	2.5044012
391	04:36.4	574448	6.35303E+12	5.19511E+13	5702.8	0.0292181	0.0270051	0.0819372	0.904008	0.8355378	2.4971106	2.4971106
392	09:39.4	574449	6.35303E+12	5.17328E+13	5699.65	0.0292181	0.0251577	0.0822376	0.904008	0.7783792	2.5062642	2.5062642
393	14:42.6	574450	6.35303E+12	5.16724E+13	5715.01	0.0292181	0.0257413	0.0825556	0.904008	0.7964358	2.5159564	2.5159564
394	19:45.6	574450	6.35303E+12	5.16724E+13	5715.9	0.0292181	0.0260754	0.0825685	0.904008	0.8067729	2.5163482	2.5163482
395	24:48.6	574450	6.35303E+12	5.16724E+13	5710.01	0.0292181	0.0257615	0.0824834	0.904008	0.7970608	2.5137552	2.5137552
396	29:51.6	574450	6.35303E+12	5.16724E+13	5720.01	0.0292181	0.0258404	0.0826278	0.904008	0.799502	2.5181576	2.5181576
397	34:54.4	574450	6.35303E+12	5.16724E+13	5725.31	0.0292181	0.0255507	0.0827044	0.904008	0.7905387	2.5204908	2.5204908
398	39:57.2	574452	6.35303E+12	5.09821E+13	5720.01	0.0292181	0.0261083	0.0837466	0.904008	0.8077908	2.5522533	2.5522533
399	45:00.3	574454	6.35303E+12	5.11925E+13	5714.05	0.0292181	0.026223	0.0833155	0.904008	0.8113396	2.5391139	2.5391139
400	50:03.4	574454	6.35303E+12	5.11925E+13	5704.48	0.0292181	0.025018	0.0831759	0.904008	0.7740569	2.5348614	2.5348614
401	55:06.5	574454	6.35303E+12	5.11925E+13	5709.99	0.0292181	0.0242779	0.0832563	0.904008	0.7511582	2.5373098	2.5373098
402	00:09.5	574454	6.35303E+12	5.11925E+13	5711.52	0.0316117	0.0239833	0.0832786	0.978066	0.7420433	2.5379897	2.5379897
403	05:12.8	574454	6.35303E+12	5.11925E+13	5715.02	0.0316117	0.0251484	0.0833296	0.978066	0.7780915	2.539545	2.539545
404	10:15.8	574454	6.35303E+12	5.11925E+13	5705.02	0.0316117	0.024145	0.0831838	0.978066	0.7470463	2.5351013	2.5351013

Bearbox v Lancium Trial Exhibit

TX920-10

	Α	В	C	D	E .	F	G	Н		J	K	L
2	datetime 22:13.7	block_height 574204	network_diff 6.35303E+12	est_network_hashrate 5.38327E+13	BTC_price 5320.02	day_ahead_LMP 0.0059375	real_time_LMP 0.0061512	breakeven_mining_cost 0.0737658	day_ahead_LMP_rev 0.1837063	real_time_LMP_rev 0.1903181	mining_rev 2.2480786	realized_rev 2.2480786
3	27:16.8	574204	6.35303E+12	5.38327E+13	5320.02	0.0059375	0.0062341	0.0737656	0.1837063	0.1928831	2.2480744	2.2480744
4	32:19.8	574204	6.35303E+12	5.38327E+13	5321.94	0.0059375	0.0048202	0.0737924	0.1837063	0.149137	2.24889	2.24889
5	37:22.9	574205	6.35303E+12	5.30839E+13	5321.95	0.0059375	0.0036136	0.0748335	0.1837063	0.1118048		2.2806172
6	42:25.9	574205	6.35303E+12	5.30839E+13	5325.19	0.0059375	0.0022848	0.074879	0.1837063	0.0706917	2.2820056	2.2820056
7	47:28.9 52:31.9	574206 574206	6.35303E+12 6.35303E+12	5.44532E+13 5.44532E+13	5328.27 5328.65	0.0059375	0.0052204 0.0074321	0.0730384 0.0730436	0.1837063 0.1837063	0.1615192 0.2299492	2.225912	2.225912 2.2260707
9	57:34.9	574200	6.35303E+12	5.39845E+13	5327.68	0.0059375	0.0009997	0.0736643	0.1837063	0.0309307	2.2449863	2.2449863
10	02:37.8	574207	6.35303E+12	5.39845E+13	5327.22	0.0009735	0.0025864	0.073658	0.0301201	0.0800232		2.2447925
11	07:40.8	574208	6.35303E+12	5.34662E+13	5325.01	0.0009735	-0.0034704	0.0743412	0.0301201	-0.1073742		2.2656139
12	12:43.8	574208	6.35303E+12	5.34662E+13	5325.01	0.0009735	-0.0085232	0.0743412	0.0301201	-0.2637078		2.2656139
13	17:46.9 22:49.7	574209 574209	6.35303E+12 6.35303E+12	5.33477E+13 5.33477E+13	5321.01 5327.95	0.0009735 0.0009735	0.0007819 0.0010434	0.0744503 0.0745474	0.0301201 0.0301201	0.024192 0.0322828	2.2689395 2.2718988	2.2689395 2.2718988
15	27:53.3	574209	6.35303E+12	5.42133E+13	5325.19	0.0009735	-0.0190352	0.0733191	0.0301201	-0.5889491	2.2344662	2.2710900
16	32:56.5	574212	6.35303E+12	5.54528E+13	5323.43	0.0009735	-0.0316021	0.0716566	0.0301201	-0.977769	2.1838	2.1838
17	37:59.5	574214	6.35303E+12	5.533E+13	5323.35	0.0009735	-0.0308754	0.0718145	0.0301201	-0.9552849	2.1886119	2.1886119
18	43:03.0	574215	6.35303E+12	5.58834E+13	5323.1	0.0009735	-0.0299834	0.0711001	0.0301201	-0.9276864	2.1668382	2.1668382
19 20	48:06.0 53:09.5	574215 574215	6.35303E+12 6.35303E+12	5.58834E+13 5.58834E+13	5326.55 5328.3	0.0009735 0.0009735	-0.026648 -0.030956	0.0711461 0.0711695	0.0301201 0.0301201	-0.8244891 -0.9577786	2.1682425 2.1689549	2.1682425 2.1689549
21	58:12.8	574215	6.35303E+12	5.54406E+13	5326.69	0.0009735	-0.031885	0.0717163	0.0301201	-0.9865219		2.1856184
22	03:15.8	574216	6.35303E+12	5.54406E+13	5330.35	0.0003732	-0.0310131	0.0717656	0.0115468	-0.9595453	2.1871201	2.1871201
23	08:18.9	574218	6.35303E+12	5.58377E+13	5330.78	0.0003732	-0.0030349	0.071261	0.0115468	-0.0938998	2.1717421	2.1717421
24	13:22.6	574220	6.35303E+12	5.59914E+13	5329.45	0.0003732	-0.0190837	0.0710476	0.0115468	-0.5904497	2.1652392	2.1652392
25	18:25.7	574220	6.35303E+12	5.59914E+13	5348.41	0.0003732	-0.0174614	0.0713003	0.0115468	-0.5402557	2.1729422	2.1729422
26 27	23:28.8 28:31.6	574223 574226	6.35303E+12 6.35303E+12	5.60912E+13 5.60441E+13	5338.35 5328.39	0.0003732	-0.0275277 -0.0300569	0.0710397 0.0709666	0.0115468 0.0115468	-0.851707 -0.9299605	2.164998 2.1627725	2.164998 2.1627725
28	33:34.4	574226	6.35303E+12	5.60441E+13	5333.1	0.0003732	-0.0260876	0.0710294	0.0115468	-0.8071503	2.1627723	2.1627723
29	38:37.6	574227	6.35303E+12	5.56725E+13	5332.07	0.0003732	-0.0192161	0.0714897	0.0115468	-0.5945461	2.1787132	2.1787132
30	43:40.6	574227	6.35303E+12	5.56725E+13	5339.02	0.0003732	-0.0197771	0.0715829	0.0115468	-0.6119035	2.181553	2.181553
31	48:43.8	574228	6.35303E+12	5.52451E+13	5343.15	0.0003732	-0.0194532	0.0721925	0.0115468	-0.601882	2.2001303	2.2001303
32	53:47.1 58:50.2	574229 574229	6.35303E+12 6.35303E+12	5.5892E+13 5.5892E+13	5338.61 5336.51	0.0003732 0.0003732	-0.0291334 -0.0235618	0.0712963 0.0712682	0.0115468 0.0115468	-0.9013874 -0.7290021	2.1728179 2.1719632	2.1728179 2.1719632
34	03:53.5	574229	6.35303E+12	5.5892E+13	5340.15	0.0003732	-0.0233618	0.0713168	0.0086601	-0.5792649	2.1719032	2.1734447
35	08:56.9	574229	6.35303E+12	5.5892E+13	5341.69	0.0002799	-0.0308233	0.0713374	0.0086601	-0.9536729	2.1740715	2.1740715
36	14:00.0	574230	6.35303E+12	5.53347E+13	5346.1	0.0002799	-0.0302971	0.0721153	0.0086601	-0.9373923		2.1977795
37	19:03.3	574230	6.35303E+12	5.53347E+13	5347.19	0.0002799	-0.0301938	0.07213	0.0086601	-0.9341962	2.1982276	2.1982276
38	24:06.5 29:09.8	574231 574231	6.35303E+12 6.35303E+12	5.49411E+13 5.49411E+13	5341.77 5342.48	0.0002799 0.0002799	-0.0280347 -0.0281744	0.0725732 0.0725829	0.0086601 0.0086601	-0.8673936 -0.8717159	2.2117345 2.2120284	2.2117345 2.2120284
40	34:12.9	574232	6.35303E+12	5.47061E+13	5349.99	0.0002799	-0.0268456	0.0729971	0.0086601	-0.8306029		2.2246529
41	39:15.9	574232	6.35303E+12	5.47061E+13	5346.06	0.0002799	-0.0273812	0.0729435	0.0086601	-0.8471743		2.2230187
42	44:19.1	574232	6.35303E+12	5.47061E+13	5350.69	0.0002799	-0.0274119	0.0730067	0.0086601	-0.8481242	2.224944	2.224944
43	49:22.3	574232	6.35303E+12	5.47061E+13	5361.36	0.0002799	-0.0288527	0.0731523	0.0086601	-0.8927025		2.2293808
44	54:25.5 59:28.2	574232 574232	6.35303E+12 6.35303E+12	5.47061E+13 5.47061E+13	5358.36 5366.19	0.0002799 0.0002799	-0.0281218 -0.0262745	0.0731113 0.0732182	0.0086601 0.0086601	-0.8700885 -0.812933	2.2281334 2.2313893	2.2281334 2.2313893
46	04:31.6	574233	6.35303E+12	5.35475E+13	5377.4	0.0028119	-0.026271	0.0749586	0.0870002	-0.8128247	2.2844298	2.2844298
47	09:34.5	574233	6.35303E+12	5.35475E+13	5358.81	0.0028119	-0.0028349	0.0746994	0.0870002	-0.0877118		2.2765324
48	14:37.5	574233	6.35303E+12	5.35475E+13	5359.15	0.0028119	-0.0008362	0.0747042	0.0870002	-0.025872	2.2766768	2.2766768
49	19:40.5	574233	6.35303E+12	5.35475E+13	5359.66	0.0028119	-0.018256	0.0747113	0.0870002	-0.5648406		2.2768935
50 51	24:43.4 29:46.4	574234 574234	6.35303E+12 6.35303E+12	5.31615E+13 5.31615E+13	5358.18 5351.99	0.0028119 0.0028119	-0.0019335 -0.0146595	0.075233 0.0751461	0.0870002 0.0870002	-0.0598225 -0.4535649	2.2927926 2.2901439	2.2927926 2.2901439
52	34:49.2	574234	6.35303E+12	5.31615E+13	5344.84	0.0028119	-0.0033057	0.0750457	0.0870002	-0.1022784		2.2870844
53	39:52.4	574236	6.35303E+12	5.29706E+13	5349.94	0.0028119	-0.0160658	0.075388	0.0870002	-0.4970759	2.2975179	2.2975179
54	44:55.4	574237	6.35303E+12	5.26741E+13	5348.56	0.0028119	-0.0313865	0.0757929	0.0870002	-0.9710983	2.3098563	2.3098563
55 56	49:58.5 55:01.6	574238 574238	6.35303E+12	5.2719E+13 5.2719E+13	5353.94	0.0028119 0.0028119	-0.0300483 -0.0054625	0.0758044 0.0757736	0.0870002 0.0870002	-0.9296944 -0.1690098		2.3102083 2.3092677
57	00:04.5	574239	6.35303E+12 6.35303E+12	5.28168E+13	5351.76 5350.18	0.0122894	-0.0034623	0.0756109	0.380234	-0.1690098		2.3092677
58	10:10.2	574240	6.35303E+12	5.25658E+13	5348.27	0.0122894	-0.0303162	0.0759448	0.380234	-0.9379832	2.314487	2.314487
59	15:13.1	574243	6.35303E+12	5.35108E+13	5354.34	0.0122894	4.40E-06	0.0746884	0.380234	0.0001361	2.2761958	2.2761958
60	20:15.8	574245	6.35303E+12	5.38531E+13	5358.41	0.0122894	0.0009337	0.07427	0.380234	0.0288887		2.2634449
61	25:18.5 30:21.5	574245 574246	6.35303E+12 6.35303E+12	5.38531E+13 5.41667E+13	5356.02 5359.34	0.0122894 0.0122894	-0.0033181 -0.0013696	0.0742369 0.0738528	0.380234 0.380234	-0.102662 -0.0423754		2.2624353 2.2507317
63	35:24.4	574246	6.35303E+12	5.41667E+13	5361.98	0.0122894	0.0048181	0.0738892	0.380234	0.149072		2.2518404
64	40:27.4	574246	6.35303E+12	5.41667E+13	5366.6	0.0122894	-0.0154488	0.0739529	0.380234	-0.4779859		2.2537807
65	45:30.2	574248	6.35303E+12	5.41479E+13	5365.93	0.0122894	-0.001393	0.0739693	0.380234	-0.0430994		2.2542821
66 67	50:33.1 55:36.2	574251 574251	6.35303E+12 6.35303E+12	5.52479E+13 5.52479E+13	5359.19 5356.1	0.0122894 0.0122894	0.0017926 0.0017688	0.0724055 0.0723638	0.380234 0.380234	0.055463 0.0547267	2.2066234 2.2053511	2.2066234 2.2053511
68	00:39.1	574251	6.35303E+12	5.52479E+13 5.50584E+13	5358.27	0.0122894	0.0017688	0.0726423	0.380234	0.0547267		2.2053511
69	05:43.7	574252	6.35303E+12	5.50584E+13	5360.85	0.0171137	0.1588863	0.0726772	0.5294979	4.9159421	2.2149045	4.9159421
70	10:47.0	574253	6.35303E+12	5.55506E+13	5361.66	0.0171137	0.0136055	0.0720441	0.5294979	0.4209542		2.1956089
71	15:49.8	574255	6.35303E+12	5.5978E+13	5358.19	0.0171137	0.0099201	0.0714478	0.5294979	0.3069279		2.1774367
72 73	20:52.5 25:55.7	574256 574257	6.35303E+12 6.35303E+12	5.57331E+13 5.59531E+13	5364.52 5368.93	0.0171137 0.0171137	0.0105695 0.0083334	0.0718465 0.0716229	0.5294979 0.5294979	0.3270203 0.2578354	2.1895872 2.182771	2.1895872 2.182771
74	30:58.7	574257	6.35303E+12	5.59531E+13 5.59531E+13	5369.93	0.0171137	0.0083334	0.0716229	0.5294979	0.2114254		2.182771
75	36:01.5	574257	6.35303E+12	5.59531E+13	5368.01	0.0171137	0.0067429	0.0716106	0.5294979	0.2086253	2.182397	2.182397
76	41:04.6	574258	6.35303E+12	5.61961E+13	5363.48	0.0171137	0.0078346	0.0712408	0.5294979	0.2424025		2.1711281
77	46:07.7	574258		5.61961E+13	5363.48	0.0171137	0.0075805	0.0712408	0.5294979	0.2345407		2.1711281
78 79	51:10.6 01:19.4	574258 574258	6.35303E+12 6.35303E+12	5.61961E+13 5.61961E+13	5363.48 5365.45	0.0171137 0.0174714	0.0078186 0.009863	0.0712408 0.071267	0.5294979 0.5405651	0.2419075 0.3051612		2.1711281 2.1719255
80	06:22.3	574258	6.35303E+12	5.61961E+13	5361.34	0.0174714	0.0138977	0.0712124	0.5405651	0.4299948		2.1719255
81	16:28.1	574260	6.35303E+12	5.46276E+13	5368.73	0.0174714	0.0088417	0.0733581	0.5405651	0.2735622		2.2356531
82	26:33.4	574260		5.46276E+13	5367.86	0.0174714	0.0074735	0.0733462	0.5405651	0.2312301		2.2352908
83	31:36.3	574260	6.35303E+12	5.46276E+13	5369.51	0.0174714	0.0083523	0.0733687	0.5405651	0.2584202		2.2359779
84 85	36:39.4 41:42.3	574261 574261	6.35303E+12 6.35303E+12	5.36607E+13 5.36607E+13	5367.41 5361.03	0.0174714 0.0174714	0.0077585 0.0087074	0.0746615 0.0745727	0.5405651 0.5405651	0.240048 0.269407	2.2753756 2.2726709	2.2753756 2.2726709
86	46:45.2	574261	6.35303E+12	5.36607E+13	5363.23	0.0174714	0.0086441	0.0746033	0.5405651	0.2674485		2.2736036
87	51:48.5	574261	6.35303E+12	5.36607E+13	5367.99	0.0174714	0.0107546	0.0746695	0.5405651	0.3327473		2.2756214
88	56:51.5	574261	6.35303E+12	5.36607E+13	5378.51	0.0174714	0.0087535	0.0748159	0.5405651	0.2708333		2.2800811
89	01:54.8	574266	6.35303E+12	5.51716E+13	5368.99	0.0191744	0.0082983	0.0726383	0.5932559	0.2567494		2.2137171
90	06:57.7 12:00.6	574268 574269	6.35303E+12 6.35303E+12	5.60115E+13 5.58958E+13	5366.55 5356.64	0.0191744 0.0191744	0.0079925 0.0087789	0.0715165 0.0715322	0.5932559 0.5932559	0.247288 0.2716192		2.1795291 2.1800073
92	17:00.6	574269	6.35303E+12	5.58958E+13 5.6144E+13	5350.04	0.0191744	0.0087789	0.0715322	0.5932559	0.2543454	2.1800073	2.1800073
93	22:06.5	574271	6.35303E+12	5.6095E+13	5352.41	0.0191744	0.0080153	0.0712219	0.5932559	0.2479934		2.1705513
94	27:09.5	574271	6.35303E+12	5.6095E+13	5350.73	0.0191744	0.0078927	0.0711995	0.5932559	0.2442001		2.1698701
95	32:12.4	574271	6.35303E+12	5.6095E+13	5352.02	0.0191744	0.0080581	0.0712167	0.5932559	0.2493176	2.1703932	2.1703932

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1	A datetime	B block_height i	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	H breakeven_mining_cost	l day_ahead_LMP_rev	real time LMP rev	K mining_rev	L realized rev
96	37:15.7	574273	6.35303E+12	5.53104E+13	5353.7	0.0191744	0.0084743	0.0722496	0.5932559	0.2621948	2.2018709	2.2018709
97	42:19.1	574273	6.35303E+12	5.53104E+13	5354.2	0.0191744	0.0105116	0.0722563	0.5932559	0.3252289	2.2020766	2.2020766
98	47:22.1	574274	6.35303E+12	5.53441E+13	5354.14	0.0191744	0.0118583	0.0722116	0.5932559	0.3668958	2.2007128	2.2007128 2.2011279
99 100	52:25.1 57:28.6	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5355.15 5366.51	0.0191744 0.0191744	0.0169972 0.0145957	0.0722252 0.0723784	0.5932559 0.5932559	0.5258934 0.451591	2.2011279 2.2057972	2.2011279
101	02:31.9	574274	6.35303E+12	5.53441E+13	5367.34	0.0216519	0.009775	0.0723896	0.6699098	0.3024385	2.2061384	2.2061384
102	07:34.9	574274	6.35303E+12	5.53441E+13	5369.11	0.0216519	0.0089501	0.0724135	0.6699098	0.2769161	2.2068659	2.2068659
103 104	12:38.4 17:41.3	574274 574274	6.35303E+12 6.35303E+12	5.53441E+13 5.53441E+13	5361.12 5366.11	0.0216519 0.0216519	0.0155345 0.0159714	0.0723057 0.072373	0.6699098 0.6699098	0.4806374 0.4941551	2.2035818 2.2056328	2.2035818 2.2056328
105	22:44.6	574275	6.35303E+12	5.36343E+13	5369.98	0.0216519	0.015976	0.0747339	0.6699098	0.4942974	2.2775843	2.2775843
106	27:47.5	574275	6.35303E+12	5.36343E+13	5368.01	0.0216519	0.0157924	0.0747065	0.6699098	0.4886169	2.2767487	2.2767487
107	32:50.5	574277	6.35303E+12	5.50501E+13	5373.94	0.0216519	0.0199778	0.0728657	0.6699098	0.6181131	2.2206488	2.2206488
108 109	37:53.4 42:56.1	574279 574281	6.35303E+12 6.35303E+12	5.54528E+13 5.67946E+13	5377.71 5384.52	0.0216519 0.0216519	0.019191 0.0172445	0.0723873 0.0707666	0.6699098 0.6699098	0.5937695 0.5335448	2.2060669 2.1566766	2.2060669
110	47:59.0	574281	6.35303E+12	5.67946E+13	5380.73	0.0216519	0.0171053	0.0707168	0.6699098	0.529238	2.1551586	2.1551586
111	53:02.0	574282	6.35303E+12	5.6096E+13	5375.54	0.0216519	0.0134277	0.0715284	0.6699098	0.415453	2.1798939	2.1798939
112 113	58:05.2 03:08.4	574282 574283	6.35303E+12 6.35303E+12	5.6096E+13 5.56063E+13	5378.27 5389.1	0.0216519 0.0235997	0.018	0.0715648 0.0723403	0.6699098 0.7301747	0.55692 0.5537548	2.1810009 2.2046367	2.1810009 2.2046367
114	03:06.4	574283	6.35303E+12	5.56063E+13	5401.6	0.0235997	0.0178977	0.0725081	0.7301747	0.5537548	2.2046367	2.2046367
115	13:14.8	574283	6.35303E+12	5.56063E+13	5411.61	0.0235997	0.0198174	0.0726425	0.7301747	0.6131504	2.2138454	2.2138454
116	18:18.7	574284	6.35303E+12	5.64188E+13	5399.02	0.0235997	0.0211285	0.0714298	0.7301747	0.6537158	2.1768876	2.1768876
117 118	23:21.6 28:24.6	574284 574284	6.35303E+12 6.35303E+12	5.64188E+13 5.64188E+13	5401.6 5405.99	0.0235997 0.0235997	0.0206955 0.0201906	0.0714639 0.071522	0.7301747 0.7301747	0.6403188 0.6246972	2.1779279 2.1796979	2.1779279 2.1796979
119	38:30.0	574285	6.35303E+12	5.57835E+13	5401.12	0.0235997	0.0196938	0.0722714	0.7301747	0.6093262	2.2025372	2.2025372
120	43:33.2	574285	6.35303E+12	5.57835E+13	5404.01	0.0235997	0.0205017	0.0723101	0.7301747	0.6343226	2.2037157	2.2037157
121	48:36.5	574285	6.35303E+12	5.57835E+13	5404.26	0.0235997	0.0202344	0.0723135	0.7301747	0.6260523	2.2038176	2.2038176
122 123	53:39.7 58:42.8	574285 574285	6.35303E+12 6.35303E+12	5.57835E+13 5.57835E+13	5400.01 5405.56	0.0235997 0.0235997	0.0204794 0.0204578	0.0722566 0.0723309	0.7301747 0.7301747	0.6336326 0.6329643	2.2020845 2.2043478	2.2020845 2.2043478
124	03:45.8	574285	6.35303E+12	5.57835E+13	5405.7	0.0246624	0.0205258	0.0723327	0.7630547	0.6350683	2.2043478	2.2044049
125	08:49.5	574286	6.35303E+12	5.36818E+13	5416.95	0.0246624	0.0206883	0.0753209	0.7630547	0.640096	2.2954736	2.2954736
126 127	13:52.4 18:56.1	574287 574287	6.35303E+12 6.35303E+12	5.50908E+13 5.50908E+13	5405.74 5394.62	0.0246624 0.0246624	0.0206454 0.0206499	0.0732427 0.073092	0.7630547 0.7630547	0.6387687 0.6389079	2.232137 2.2275453	2.232137 2.2275453
128	23:59.2	574288	6.35303E+12	5.6446E+13	5372.85	0.0246624	0.0206922	0.0710493	0.7630547	0.6402167	2.1652907	2.1652907
129	29:02.2	574288	6.35303E+12	5.6446E+13	5385.99	0.0246624	0.0206955	0.071223	0.7630547	0.6403188	2.1705862	2.1705862
130	34:05.7	574289	6.35303E+12	5.61643E+13	5382.78	0.0246624	0.0217427	0.0715377	0.7630547	0.6727191	2.1801747	2.1801747
131 132	39:08.7 44:11.8	574289 574289	6.35303E+12 6.35303E+12	5.61643E+13 5.61643E+13	5380.01 5375.01	0.0246624 0.0246624	0.0218238 0.0212482	0.0715009 0.0714344	0.7630547 0.7630547	0.6752284 0.6574193	2.1790528 2.1770277	2.1790528 2.1770277
133	54:17.2	574292	6.35303E+12	5.59818E+13	5380.19	0.0246624	0.0212482	0.0717363	0.7630547	0.678047	2.1770277	2.1862275
134	59:20.2	574293	6.35303E+12	5.63654E+13	5377.35	0.0246624	0.021873	0.0712105	0.7630547	0.6767506	2.1702049	2.1702049
135	04:23.7	574294	6.35303E+12	5.66874E+13	5388.44	0.0258801	0.0213278	0.070952	0.8007303	0.6598821	2.1623271	2.1623271
136 137	09:26.5 14:29.9	574295 574298	6.35303E+12 6.35303E+12	5.71185E+13 5.77593E+13	5388.44 5389.19	0.0258801 0.0258801	0.021527 0.0216842	0.0704165 0.0696449	0.8007303 0.8007303	0.6660454 0.6709091	2.1460054 2.122492	2.1460054 2.122492
138	19:32.9	574298	6.35303E+12	5.77593E+13	5388.39	0.0258801	0.0240613	0.0696346	0.8007303	0.7444566	2.122177	2.122177
139	24:35.8	574298	6.35303E+12	5.77593E+13	5391.23	0.0258801	0.0222895	0.0696713	0.8007303	0.6896371	2.1232955	2.1232955
140 141	29:38.9 34:42.6	574298 574300	6.35303E+12 6.35303E+12	5.77593E+13 5.74492E+13	5399.68 5391.27	0.0258801 0.0258801	0.0257402 0.0264737	0.0697805 0.0700479	0.8007303 0.8007303	0.7964018 0.8190963	2.1266234 2.1347724	2.1266234 2.1347724
142	39:47.4	574301	6.35303E+12	5.7613E+13	5390.99	0.0258801	0.0264737	0.0698452	0.8007303	2.6165525	2.1347724	2.6165525
143	44:51.4	574302	6.35303E+12	5.77583E+13	5394.15	0.0258801	0.2208707	0.0697103	0.8007303	6.8337395	2.124483	6.8337395
144 145	49:55.5	574302	6.35303E+12	5.77583E+13	5395.41	0.0258801	0.1569397	0.0697265	0.8007303	4.8557143	2.1249792	4.8557143
146	55:00.3 05:07.6	574304 574305	6.35303E+12 6.35303E+12	5.7411E+13 5.8471E+13	5395.02 5393.61	0.0258801 0.0282381	0.1785686 0.2199419	0.0701433 0.0688537	0.8007303 0.8736868	5.5249125 6.8050024	2.1376815 2.0983778	5.5249125 6.8050024
147	10:10.7	574305	6.35303E+12	5.8471E+13	5393.59	0.0282381	0.0379328	0.0688534	0.8736868	1.1736408	2.09837	2.09837
148	15:13.9	574307	6.35303E+12	5.89967E+13	5393.1	0.0282381	0.0282657	0.0682337	0.8736868	0.8745408	2.0794831	2.0794831
149 150	20:16.9 25:20.0	574309 574309	6.35303E+12 6.35303E+12	6.00748E+13 6.00748E+13	5397.01 5396.19	0.0282381	0.0260977	0.0670578 0.0670476	0.8736868 0.8736868	0.8074628 0.802333	2.0436461 2.0433356	2.0436461 2.0433356
151	30:22.8	574310	6.35303E+12	6.02983E+13	5397.48	0.0282381	0.030206	0.0668151	0.8736868	0.9345736	2.0433330	2.0362495
152	35:25.7	574311	6.35303E+12	6.01255E+13	5402.84	0.0282381	0.0302009	0.0670736	0.8736868	0.9344158	2.044127	2.044127
153 154	40:29.7 45:32.5	574312 574312	6.35303E+12 6.35303E+12	5.99055E+13 5.99055E+13	5397.41 5395.01	0.0282381 0.0282381	0.0302509 0.0260271	0.0672522 0.0672223	0.8736868 0.8736868	0.9359628 0.8052785	2.0495721 2.0486608	2.0495721 2.0486608
155	55:37.6	574315		5.97623E+13	5393.01	0.0282381	0.0262949	0.0672223	0.8736868	0.8135642	2.0486608	2.0523565
156	00:42.0	574315	6.35303E+12	5.97623E+13	5387.9	0.0299687	0.2138963	0.0672946	0.9272316	6.6179515		6.6179515
157	05:45.0	574317	6.35303E+12	6.04051E+13	5388.49	0.0299687	0.0275245	0.0665859	0.9272316		2.0292641	2.0292641
158 159	10:49.5 15:52.2	574319 574320	6.35303E+12 6.35303E+12	6.0775E+13 6.21737E+13	5387.98 5393.73	0.0299687 0.0299687	0.2273972 0.0493605	0.0661742 0.0647546	0.9272316 0.9272316	7.0356694 1.5272139	2.0167195 1.9734558	7.0356694 1.9734558
160	20:54.9	574320	6.35303E+12	6.21737E+13	5399.05	0.0299687	0.0433003	0.0648185	0.9272316	1.1612741	1.9754023	1.9754023
161	25:57.6	574320	6.35303E+12	6.21737E+13	5405.74	0.0299687	0.0307695	0.0648988	0.9272316	0.9520083	1.97785	1.97785
162 163	31:00.3 36:03.1	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5405.41 5401.85	0.0299687 0.0299687	0.0283888 0.0282614	0.0653138 0.0652708	0.9272316 0.9272316	0.8783495 0.8744077	1.9904973 1.9891864	1.9904973 1.9891864
164	41:06.0	574321	6.35303E+12	6.17749E+13	5409.99	0.0299687	0.0282814	0.0653692	0.9272316	0.8597174	1.9921839	1.9921839
165	46:08.9	574321	6.35303E+12	6.17749E+13	5408.8	0.0299687	0.0279693	0.0653548	0.9272316	0.8653701	1.9917457	1.9917457
166	51:11.6	574321	6.35303E+12	6.17749E+13	5412.57	0.0299687 0.0299687	0.0279898	0.0654003	0.9272316	0.8660044	1.9931339	1.9931339
167 168	56:14.5 01:17.4	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5407.34 5400.73	0.0299687	0.0268645 0.0268945	0.0653371 0.0652573	0.9272316 0.9068916	0.8311876 0.8321158		1.991208 1.9887739
169	06:20.2	574321	6.35303E+12	6.17749E+13	5395.3	0.0293113	0.027018	0.0651917	0.9068916	0.8359369	1.9867744	1.9867744
170	11:23.2	574321	6.35303E+12	6.17749E+13	5397.81	0.0293113	0.0267743	0.065222	0.9068916	0.8283968		1.9876987
171 172	16:26.3 21:29.6	574321 574321	6.35303E+12 6.35303E+12	6.17749E+13 6.17749E+13	5397.93 5392.62	0.0293113 0.0293113	0.0268461 0.0269721	0.0652234 0.0651593	0.9068916 0.9068916	0.8306183 0.8345168	1.9877429 1.9857875	1.9877429 1.9857875
173	26:32.5	574321	6.35303E+12	6.17749E+13	5393.89	0.0293113	0.0269721	0.0651746	0.9068916	0.8314042	1.9862552	1.9862552
174	31:35.4	574322	6.35303E+12	5.8824E+13	5396.27	0.0293113	0.0268167	0.0684743	0.9068916	0.8297087	2.0868162	2.0868162
175	36:38.4	574322	6.35303E+12	5.8824E+13	5393.1	0.0293113	0.0261239	0.0684341	0.9068916	0.8082735	2.0855903	2.0855903
176 177	41:41.3 46:44.3	574322 574323	6.35303E+12 6.35303E+12	5.8824E+13 5.85421E+13	5393.7 5398.48	0.0293113 0.0293113	0.0274601 0.0267306	0.0684417 0.0688322	0.9068916 0.9068916	0.8496155 0.8270448	2.0858223 2.0977221	2.0858223 2.0977221
178	51:47.3	574323	6.35303E+12	5.85421E+13	5406.39	0.0293113	0.0276187	0.068933	0.9068916	0.8545226		2.1007958
179	56:50.2	574324	6.35303E+12	5.81584E+13	5403.98	0.0293113	0.0303914	0.0693569	0.9068916	0.9403099		2.1137127
180 181	01:53.0	574326 574326	6.35303E+12	5.98016E+13	5406.62	0.0303255	0.0359994	0.0674841	0.938271	1.1138214	2.0566378	2.0566378
182	06:56.1 11:58.9	574325	6.35303E+12 6.35303E+12	5.98016E+13 5.96067E+13	5402.77 5401.77	0.0303255 0.0303255	0.0287643 0.0276195	0.067436 0.067644	0.938271 0.938271	0.8899674 0.8545473	2.0551733 2.0615104	2.0551733 2.0615104
183	17:01.7	574327	6.35303E+12	5.96067E+13	5403.81	0.0303255	0.0258549	0.0676695	0.938271	0.7999506		2.0622889
184	22:04.9	574328	6.35303E+12	5.96752E+13	5405.43	0.0303255	0.0273178	0.0676122	0.938271	0.8452127	2.0605413	2.0605413
185 186	27:08.0 32:11.6	574328 574329	6.35303E+12 6.35303E+12	5.96752E+13 5.94855E+13	5405.62 5414.16	0.0303255 0.0303255	0.027105 0.0272499	0.0676145 0.0679373	0.938271 0.938271	0.8386287 0.8431119	2.0606137 2.0704516	2.0606137 2.0704516
187	37:14.5	574329	6.35303E+12	5.94855E+13 5.97035E+13	5414.16	0.0303255	0.0272499	0.0676893	0.938271	0.8427004	2.0704516	2.0704516
188	42:17.3	574331	6.35303E+12	5.96567E+13	5411.93	0.0303255	0.0259498	0.0677144	0.938271	0.8028868	2.0636583	2.0636583
189	47:20.1	574331	6.35303E+12	5.96567E+13	5411.28	0.0303255	0.0270709	0.0677063	0.938271	0.8375736	2.0634104	2.0634104

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1 0	A datetime	B block_height	C network_diff	D est_network_hashrate	E BTC_price	F day_ahead_LMP	G real_time_LMP	H breakeven_mining_cost	day_ahead_LMP_rev	real_time_LMP_rev	K mining_rev	realized_rev
190	52:22.9	574333	6.35303E+12	5.9734E+13	5406.27	0.0303255	0.0270923	0.0675561	0.938271	0.8382358	2.0588333	2.0588333
191	57:25.6	574333	6.35303E+12	5.9734E+13	5401.15	0.0303255	0.0273697	0.0674921	0.938271	0.8468185	2.0568835	2.0568835
192	02:28.6	574334	6.35303E+12	5.92562E+13	5400.02	0.0291501	0.028349	0.0680221	0.9019041	0.8771181	2.0730351	2.0730351
193	07:32.0	574335	6.35303E+12	5.9018E+13	5400.05	0.0291501	0.0271441	0.068297	0.9019041	0.8398385	2.0814126	2.0814126
194 195	12:35.2 17:38.0	574337 574338	6.35303E+12 6.35303E+12	6.04407E+13 6.00814E+13	5403.81 5403.9	0.0291501 0.0291501	0.0271795 0.0269433	0.0667358 0.067136	0.9019041 0.9019041	0.8409337 0.8336257	2.0338321 2.0460298	2.0338321 2.0460298
196	22:41.3	574340	6.35303E+12	6.01388E+13	5404.53	0.0291501	0.0265047	0.067136	0.9019041	0.8200554	2.0460298	2.0460298
197	27:44.1	574342	6.35303E+12	6.0482E+13	5405.01	0.0291501	0.0269789	0.066705	0.9019041	0.8347272	2.0328944	2.0328944
198	32:47.4	574342	6.35303E+12	6.0482E+13	5405.02	0.0291501	0.0259921	0.0667051	0.9019041	0.8041956	2.0328982	2.0328982
199	37:50.1	574343	6.35303E+12	5.99395E+13	5399.97	0.0291501	0.0266251	0.067246	0.9019041	0.8237806		2.0493813
200	42:52.9	574344	6.35303E+12	5.95861E+13	5399.01	0.0291501	0.0264856	0.0676328	0.9019041	0.8194645	2.0611697	2.0611697
201	47:55.6	574344 574344	6.35303E+12 6.35303E+12	5.95861E+13 5.95861E+13	5399.01 5394.86	0.0291501 0.0291501	0.027138 0.0264887	0.0676328	0.9019041 0.9019041	0.8396497 0.8195604	2.0611697 2.0595854	2.0611697 2.0595854
203	52:58.5 58:01.6	574344	6.35303E+12	5.95861E+13	5398.35	0.0291501	0.0264887	0.0675808 0.0676245	0.9019041	0.8256834	2.0593834	2.0609177
204	03:05.6	574346	6.35303E+12	5.84022E+13	5395.14	0.0282198	0.227266	0.0689544	0.8731206	7.03161	2.1014468	7.03161
205	08:09.0	574347	6.35303E+12	5.86008E+13	5392.22	0.0282198	0.0268838	0.0686835	0.8731206	0.8317848	2.0931918	2.0931918
206	13:12.1	574347	6.35303E+12	5.86008E+13	5397.01	0.0282198	0.0269587	0.0687445	0.8731206	0.8341022	2.0950512	2.0950512
207	18:15.1	574348	6.35303E+12	5.87322E+13	5398.6	0.0282198	0.02711	0.0686109	0.8731206	0.8387834	2.0909802	2.0909802
208 209	23:18.2	574348 574349	6.35303E+12	5.87322E+13	5396.18	0.0282198 0.0282198	0.0268066	0.0685802	0.8731206	0.8293962	2.0900429	2.0900429 7.0037486
210	28:22.4 33:25.3	574349	6.35303E+12 6.35303E+12	5.84595E+13 5.84595E+13	5396.23 5395.06	0.0282198	0.2263655 0.0366701	0.0689007 0.0688857	0.8731206 0.8731206	7.0037486 1.1345729	2.0998095	2.0993542
211	38:28.1	574350	6.35303E+12	5.91267E+13	5395.03	0.0282198	0.0272366	0.0681081	0.8731206	0.8427004	2.0756546	2.0756546
212	43:31.1	574351	6.35303E+12	5.92508E+13	5395.02	0.0282198	0.0249648	0.0679653	0.8731206	0.7724109	2.071303	2.071303
213	48:33.9	574351	6.35303E+12	5.92508E+13	5394.15	0.0282198	0.025678	0.0679543	0.8731206	0.7944773	2.070969	2.070969
214	53:36.6	574351	6.35303E+12	5.92508E+13	5390.52	0.0282198	0.0248895	0.0679086	0.8731206	0.7700811	2.0695753	2.0695753
215	58:39.4	574351	6.35303E+12	5.92508E+13	5391.4	0.0282198	0.0251117	0.0679197	0.8731206	0.776956	2.0699132	2.0699132
216 217	03:42.2 08:45.1	574351 574351	6.35303E+12 6.35303E+12	5.92508E+13 5.92508E+13	5383.02 5371.99	0.0294796	0.0251798 0.0226656	0.0678141 0.0676752	0.9120988 0.9120988	0.779063 0.7012737	2.0666958 2.0624611	2.0666958 2.0624611
218	13:48.0	574351	6.35303E+12	5.92508E+13	5371.99	0.0294796	0.0227334	0.0677362	0.9120988	0.7012737	2.0624611	2.0643232
219	18:50.8	574353	6.35303E+12	5.95341E+13	5372.72	0.0294796	0.0243466	0.0673622	0.9120988	0.7532838	2.0529247	2.0529247
220	23:53.6	574353	6.35303E+12	5.95341E+13	5379.06	0.0294796	0.023035	0.0674417	0.9120988	0.7127029	2.0553472	2.0553472
221	28:56.9	574353	6.35303E+12	5.95341E+13	5386.27	0.0294796	0.0249424	0.0675321	0.9120988	0.7717179	2.0581021	2.0581021
222	33:59.8	574353	6.35303E+12	5.95341E+13	5393.51	0.0294796	0.0253684	0.0676229	0.9120988	0.7848983 0.7830976	2.0608686	2.0608686
223	39:02.6 44:05.8	574353 574354	6.35303E+12 6.35303E+12	5.95341E+13 5.92005E+13	5397.98 5401.73	0.0294796 0.0294796	0.0253102 0.0249924	0.0676789 0.0681077	0.9120988 0.9120988	0.7830976 0.7732649	2.0625766 2.0756429	2.0625766 2.0756429
225	49:09.4	574356	6.35303E+12	6.01278E+13	5395.44	0.0294796	0.0234267	0.0669792	0.9120988	0.7248221	2.0730423	2.0412523
226	54:12.7	574356	6.35303E+12	6.01278E+13	5400.19	0.0294796	0.0248989	0.0670382	0.9120988	0.770372	2.0430494	2.0430494
227	59:15.5	574357	6.35303E+12	5.98782E+13	5407.34	0.0294796	0.0220481	0.0674068	0.9120988	0.6821682	2.054282	2.054282
228	04:18.3	574357	6.35303E+12	5.98782E+13	5412.65	0.0358902	0.0218857	0.067473	1.1104428	0.6771436	2.0562993	2.0562993
229	09:22.0	574358	6.35303E+12	5.94067E+13	5412.99	0.0358902	0.0216716	0.0680127	1.1104428	0.6705193	2.0727494	2.0727494
230 231	14:25.2 19:28.2	574359 574360	6.35303E+12 6.35303E+12	5.99023E+13 6.0023E+13	5410.59 5412.47	0.0358902	0.0219037 0.0219939	0.0674202 0.0673079	1.1104428 1.1104428	0.6777005 0.6804913	2.0546898	2.0546898 2.0512675
232	24:32.0	574360	6.35303E+12	6.0023E+13	5404.27	0.0358902	0.0219939	0.0672059	1.1104428	0.7063045	2.0312673	2.0312673
233	29:35.3	574361	6.35303E+12	5.95038E+13	5406.99	0.0358902	0.0225739	0.0678264	1.1104428	0.6984365	2.0670711	2.0670711
234	34:38.6	574361	6.35303E+12	5.95038E+13	5410.01	0.0358902	0.0245993	0.0678643	1.1104428	0.7611023	2.0682256	2.0682256
235	39:41.7	574361	6.35303E+12	5.95038E+13	5424.76	0.0358902	0.0359936	0.0680493	1.1104428	1.113642	2.0738645	2.0738645
236	44:44.7	574362	6.35303E+12	5.87448E+13	5432.99	0.0358902	0.0239225	0.0690331	1.1104428	0.7401622	2.1038472	2.1038472
237 238	49:48.5 54:51.9	574362 574363	6.35303E+12 6.35303E+12	5.87448E+13 5.80502E+13	5431.52 5426.35	0.0358902 0.0358902	0.0225293 0.0241253	0.0690145 0.0697738	1.1104428 1.1104428	0.6970565 0.7464368	2.103278	2.103278 2.1264208
239	59:55.2	574363	6.35303E+12	5.80502E+13	5426.04	0.0358902	0.0326824	0.0697699	1.1104428	1.0111935	2.1262994	2.1262994
240	04:57.9	574364	6.35303E+12	5.78645E+13	5431.65	0.0269835	0.0482413	0.0700661	0.8348695	1.4925858	2.1353278	2.1353278
241	10:00.7	574364	6.35303E+12	5.78645E+13	5442.45	0.0269835	0.043395	0.0702054	0.8348695	1.3426413	2.1395736	2.1395736
242	15:04.3	574366	6.35303E+12	5.7531E+13	5432.6	0.0269835	0.0243861	0.0704846	0.8348695	0.7545059	2.1480807	2.1480807
243	20:07.3	574367	6.35303E+12	5.84533E+13	5443.24	0.0269835	0.0247503	0.0695083	0.8348695	0.7657743	2.1183292	2.1183292
244 245	25:11.1 30:14.0	574368 574368	6.35303E+12 6.35303E+12	5.81378E+13 5.81378E+13	5430.99 5447.49	0.0269835	0.0232247 0.0215208	0.0697283 0.0699401	0.8348695 0.8348695	0.7185722 0.6658536	2.125032 2.1314881	2.125032 2.1314881
246	35:16.8	574369	6.35303E+12	5.7527E+13	5441.28	0.0269835	0.0213208	0.0706021	0.8348695	0.6561817	2.1514881	2.1514661
247	40:20.2	574369	6.35303E+12	5.7527E+13	5444.99	0.0269835	0.0200685	0.0706503	0.8348695	0.6209194	2.153131	2.153131
248	45:23.2	574370	6.35303E+12	5.73316E+13	5445.99	0.0269835	0.0200685	0.0709041	0.8348695	0.6209194	2.1608665	2.1608665
249	50:26.3	574370			0.00.00	0.0269835	0.0196295	0.0711731	0.8348695	0.6073367		2.169064
250	55:29.5	574372	6.35303E+12 6.35303E+12	5.7029E+13		0.0269835	0.0196295	0.0716362	0.8348695	0.6073367 0.6059321	2.1831762	2.1831762
251 252	00:32.6 05:35.5	574373 574373	6.35303E+12 6.35303E+12	5.75391E+13 5.75391E+13	5470.2 5471.01	0.0208048	0.0195841 0.0193404	0.0709624 0.0709729	0.6437005 0.6437005	0.6059321	2.1626439 2.1629641	2.1626439 2.1629641
253	10:38.5	574374	6.35303E+12	5.70787E+13	5461.19	0.0208048	0.0197241	0.071417	0.6437005	0.6102637	2.1764965	2.1764965
254	15:41.4	574374	6.35303E+12	5.70787E+13	5460.95	0.0208048	0.019458	0.0714138	0.6437005	0.6020305		2.1764008
255	20:44.2	574376	6.35303E+12	5.68162E+13	5461.87	0.0208048	0.0214581	0.0717558	0.6437005	0.6639136		2.186823
256	25:47.0	574376	6.35303E+12	5.68162E+13	5458.6	0.0208048	0.019573	0.0717129	0.6437005	0.6055886	2.1855137	2.1855137
257 258	30:49.8 35:52.5	574376 574377	6.35303E+12 6.35303E+12	5.68162E+13 5.63276E+13	5452.56 5460.02	0.0208048 0.0208048	0.0197916 0.0219913	0.0716335 0.0723538	0.6437005 0.6437005	0.6123521 0.6804108	2.1830955 2.2050485	2.1830955 2.2050485
259	40:55.3	574377	6.35303E+12	5.63276E+13	5466.78	0.0208048	0.021309	0.0724434	0.6437005	0.6593005	2.2030483	2.2030483
260	45:58.1	574378	6.35303E+12	5.65074E+13	5473.24	0.0208048	0.0213163	0.0722982	0.6437005	0.6595263		2.2033529
261	56:03.2	574378	6.35303E+12	5.65074E+13	5469.64	0.0208048	0.0197517	0.0722507	0.6437005	0.6111176	2.2019037	2.2019037
262	01:36.8	574383	6.35303E+12	5.72964E+13	5478.36	0.0179961	0.0188214	0.0713693	0.5567993	0.5823341		2.1750424
263 264	06:39.7	574384 574384	6.35303E+12 6.35303E+12	5.65611E+13 5.65611E+13	5470.62 5480.47	0.0179961	0.0187891	0.072195	0.5567993	0.5813348		2.2002079
264	11:42.6 21:48.0	574384 574384	6.35303E+12 6.35303E+12	5.65611E+13 5.65611E+13	5480.47	0.0179961 0.0179961	0.0188495 0.0183258	0.072325 0.0723819	0.5567993 0.5567993	0.5832035 0.5670003	2.2041694 2.2059028	2.2041694 2.2059028
266	26:51.2	574384	6.35303E+12	5.65611E+13	5487.23	0.0179961	0.0179839	0.0724142	0.5567993	0.5564219	2.2059028	2.2059028
267	31:54.4	574385	6.35303E+12	5.52675E+13	5489.21	0.0179961	0.018281	0.0741359	0.5567993	0.5656141	2.2593577	2.2593577
268	36:57.3	574386	6.35303E+12	5.5002E+13	5489.86	0.0179961	0.0187203	0.0745026	0.5567993	0.5792061	2.2705332	2.2705332
269	42:00.1	574387	6.35303E+12	5.4816E+13	5485.01	0.0179961	0.0183036	0.0746893	0.5567993	0.5663134	2.2762247	2.2762247
270	47:03.0	574387	6.35303E+12	5.4816E+13	5496.27	0.0179961	0.0184508	0.0748427	0.5567993	0.5708678		2.2808975
271 272	52:05.9 57:09.3	574387 574388	6.35303E+12 6.35303E+12	5.4816E+13 5.41076E+13	5492.82 5492.11	0.0179961 0.0179961	0.0184047 0.0184153	0.0747957 0.0757651	0.5567993 0.5567993	0.5694414 0.5697694		2.2794658 2.3090086
273	02:12.6	574388	6.35303E+12	5.41076E+13	5492.11	0.0179361	0.0184153	0.0757758	0.5272114	0.5697594		2.3090086
274	07:15.4	574388	6.35303E+12	5.41076E+13	5495.29	0.0170398	0.0183942	0.0758089	0.5272114	0.5691165		2.3103456
275	12:18.2	574389	6.35303E+12	5.34819E+13	5496.51	0.0170398	0.0183866	0.0767129	0.5272114	0.5688814	2.3378941	2.3378941
276	17:21.0	574392	6.35303E+12	5.44667E+13	5498.94	0.0170398	0.0188814	0.0753591	0.5272114	0.5841905		2.2966372
	22:23.9	574393	6.35303E+12	5.4543E+13	5520.34	0.0170398	0.0194343	0.0755467	0.5272114	0.6012972	2.3023534	2.3023534
277	27:26.7	574393	6.35303E+12	5.4543E+13 5.4543E+13	5541.73 5543.62	0.0170398 0.0170398	0.0193942 0.0195938	0.0758394 0.0758653	0.5272114 0.5272114	0.6000565 0.6062322		2.3112745 2.3120627
278		E74202					0.0132338	0.0758053	0.52/2114	0.0002322	4.514004/	2.312002/
278 279	32:29.9	574393 574394	6.35303E+12 6.35303E+12					0.0767563	0.5272114	0.6049636	2,3392162	2.3397167
278		574393 574394 574394	6.35303E+12 6.35303E+12 6.35303E+12	5.38779E+13 5.38779E+13	5540.34 5499.34	0.0170398 0.0170398	0.0195528 0.0198363	0.0767563 0.0761882	0.5272114 0.5272114	0.6049636 0.6137351	2.3392162 2.3219053	2.3392162 2.3219053
278 279 280	32:29.9 37:32.8	574394	6.35303E+12	5.38779E+13	5540.34	0.0170398	0.0195528					

_												
1	A datetime	B block_height	C network diff	D est network hashrate	E BTC_price	F day_ahead_LMP	G real time LMP	hroakovon mining cost	l day_ahead_LMP_rev	real time LMP rev	K mining rov	L realized rev
284	57:45.2	574395	6.35303E+12	5.53825E+13	5519.38	0.0170398	0.0192475	breakeven_mining_cost 0.0743886	0.5272114	0.5955177	mining_rev 2.2670593	
285	02:48.0	574395	6.35303E+12	5.53825E+13	5528.44	0.0176772	0.0192253	0.0745107	0.5469326		2.2707806	
286	07:50.8	574395	6.35303E+12	5.53825E+13	5533.27	0.0176772	0.0191698	0.0745758	0.5469326		2.2727645	
287	12:53.8	574396	6.35303E+12	5.44713E+13	5531.02	0.0176772	0.0189901	0.0757925	0.5469326		2.3098433	
288 289	17:56.7 22:59.6	574396 574396	6.35303E+12 6.35303E+12	5.44713E+13 5.44713E+13	5545.02 5548.95	0.0176772 0.0176772	0.0189449 0.0189618	0.0759843 0.0760382	0.5469326 0.5469326		2.3156899 2.3173312	
290	28:02.4	574390	6.35303E+12	5.38389E+13	5554.01	0.0176772	0.0190515	0.0770014	0.5469326			
291	33:05.6	574397	6.35303E+12	5.38389E+13	5549.85	0.0176772	0.0186935	0.0769437	0.5469326		2.3449279	
292	38:08.5	574397	6.35303E+12	5.38389E+13	5562.7	0.0176772	0.0189393	0.0771218	0.5469326		2.3503573	
293	43:13.3	574397	6.35303E+12	5.38389E+13	5576.66	0.0176772	0.0188386	0.0773154	0.5469326		2.3562557	
294 295	48:16.3 53:19.2	574397 574397	6.35303E+12 6.35303E+12	5.38389E+13 5.38389E+13	5591.65 5576.07	0.0176772 0.0176772	0.0189326 0.0194225	0.0775232 0.0773072	0.5469326 0.5469326		2.3625893 2.3560064	
296	58:22.3	574398	6.35303E+12	5.24135E+13	5579.93	0.0176772	0.0194733	0.0794646	0.5469326		2.4217554	
297	03:25.2	574399	6.35303E+12	5.22154E+13	5582.01	0.0178805	0.0197824	0.0797958	0.5532227	0.6120675	2.431849	
298	13:30.3	574400	6.35303E+12	5.19602E+13	5575.84	0.0178805	0.0197535	0.0800991	0.5532227	0.6111733	2.441092	
299 300	18:33.2 23:36.6	574400 574401	6.35303E+12 6.35303E+12	5.19602E+13 5.14241E+13	5579.19 5571.19	0.0178805 0.0178805	0.0198435 0.0198432	0.0801472 0.0808667	0.5532227 0.5532227	0.6139579 0.6139486	2.4425586 2.4644852	
301	28:40.0	574401	6.35303E+12	5.14241E+13	5570.27	0.0178805	0.0198432	0.0808533	0.5532227	0.6187845	2.4640783	
302	38:45.6	574403	6.35303E+12	5.16659E+13	5613.91	0.0178805	0.0206986	0.0811054	0.5532227	0.6404147	2.4717605	2.4717605
303	43:48.7	574404	6.35303E+12	5.22163E+13	5628.79	0.0178805	0.0201896	0.0804633	0.5532227	0.6246662	2.45219	
304	48:51.6	574405	6.35303E+12	5.26766E+13	5629.74	0.0178805	0.0221578	0.0797736	0.5532227	0.6855623	2.4311707	
305 306	53:54.6 58:57.4	574406 574407	6.35303E+12 6.35303E+12	5.44332E+13 5.44179E+13	5687.49 5665.95	0.0178805 0.0178805	0.020244 0.0201642	0.077991 0.0777176	0.5532227 0.5532227	0.6263494 0.6238803	2.3768473 2.3685147	
307	04:00.3	574407	6.35303E+12	5.44179E+13	5670.39	0.0186939	0.019061	0.0777785	0.5783893		2.3703707	
308	09:03.7	574408	6.35303E+12	5.43366E+13	5670.17	0.0186939	0.0196968	0.0778918	0.5783893	0.609419	2.3738241	2.3738241
309	14:06.8	574409	6.35303E+12	5.45039E+13	5709.88	0.0186939	0.0199734	0.0781965	0.5783893		2.3831101	
310 311	19:09.8 24:13.3	574409 574409	6.35303E+12 6.35303E+12	5.45039E+13 5.45039E+13	5681.29 5681.4	0.0186939 0.0186939	0.0202197 0.022567	0.077805 0.0778065	0.5783893 0.5783893	0.6255975 0.698223	2.3711776 2.3712235	
312	34:18.6	574410	6.35303E+12	5.45039E+13 5.4739E+13	5723.04	0.0186939	0.022567	0.0780402	0.5783893		2.3712235	
313	39:21.6	574410	6.35303E+12	5.4739E+13	5712.44	0.0186939	0.0217271	0.0778956	0.5783893	0.6722365	2.3739395	
314	44:26.0	574410	6.35303E+12	5.4739E+13	5766.56	0.0186939	0.0214755	0.0786336	0.5783893		2.3964304	
315 316	49:30.2 54:33.3	574410 574411	6.35303E+12 6.35303E+12	5.4739E+13 5.33843E+13	5752.64 5785.23	0.0186939 0.0186939	0.0230133 0.0235469	0.0784438 0.0808902	0.5783893 0.5783893	0.7120315 0.7285411	2.3906456 2.4652002	
317	59:36.0	574411	6.35303E+12	5.33495E+13	5778.03	0.0186939	0.0445382	0.0808422	0.5783893			
318	04:38.7	574412	6.35303E+12	5.33495E+13	5707.59	0.0235949	0.0251205	0.0798566	0.7300262		2.4337024	
319	09:41.6	574412	6.35303E+12	5.33495E+13	5698.98	0.0235949	0.0225234	0.0797362	0.7300262	0.696874	2.4300311	
320	14:44.9	574412	6.35303E+12	5.33495E+13	5716.84	0.0235949	0.023342	0.079986	0.7300262		2.4376465	
321 322	19:47.8 24:51.0	574413 574413	6.35303E+12 6.35303E+12	5.25253E+13 5.25253E+13	5727.04 5727.44	0.0235949 0.0235949	0.0235409 0.0222209	0.081386 0.0813917	0.7300262 0.7300262	0.7283554 0.6875146	2.4803111 2.4804844	
323	29:53.8	574413	6.35303E+12	5.25253E+13	5735.97	0.0235949	0.0255473	0.0815317	0.7300262	0.7904335	2.4841786	
324	34:56.6	574414	6.35303E+12	5.19701E+13	5739.52	0.0235949	0.0253504	0.0824347	0.7300262	0.7843414		
325	39:59.3	574415	6.35303E+12	5.18073E+13	5733.01	0.0235949	0.0256234	0.0826	0.7300262	0.792788	2.5173089	
326 327	45:02.1 50:05.4	574418 574420	6.35303E+12 6.35303E+12	5.19586E+13 5.25895E+13	5730.9 5722.12	0.0235949 0.0235949	0.0255253 0.0224989	0.0823292 0.0812169	0.7300262 0.7300262	0.7897528 0.696116	2.5090566 2.4751591	
328	55:08.2	574421	6.35303E+12	5.25734E+13	5697.57	0.0235949	0.0363746	0.0808932	0.7300262	1.1254301	2.4652918	
329	00:11.2	574421	6.35303E+12	5.25734E+13	5676.99	0.0269152	0.023551	0.080601	0.8327563		2.456387	
330	05:14.1	574423	6.35303E+12	5.29406E+13	5669.12	0.0269152	0.0218688	0.0799309	0.8327563		2.4359674	
331 332	15:19.2 20:22.3	574424 574425	6.35303E+12 6.35303E+12	5.28202E+13 5.23532E+13	5679.07 5686.98	0.0269152 0.0269152	0.0283279 0.0487423	0.0802538 0.0810825	0.8327563 0.8327563		2.4458059 2.471061	
333	25:27.1	574426	6.35303E+12	5.30049E+13	5674.69	0.0269152	0.2374762	0.0799125	0.8327563		2.435404	
334	30:31.1	574427	6.35303E+12	5.28466E+13	5692.52	0.0269152	0.2299546	0.0804036	0.8327563	7.1147953	2.4503724	7.1147953
335	35:34.0	574427	6.35303E+12	5.28466E+13	5694.01	0.0269152	0.0490713	0.0804247	0.8327563		2.4510138	
336 337	40:36.8 45:39.8	574428 574428	6.35303E+12 6.35303E+12	5.2354E+13 5.2354E+13	5713.35 5716.19	0.0269152 0.0269152	0.0279617 0.0282458	0.0814571 0.0814976	0.8327563 0.8327563	0.865135 0.8739251	2.4824794 2.4837134	
338	50:42.7	574428	6.35303E+12	5.2354E+13	5717.38	0.0269152	0.0284795	0.0815146	0.8327563	0.8811557	2.4842305	
339	55:45.7	574429	6.35303E+12	5.15634E+13	5710.01	0.0269152	0.0240423	0.0826578	0.8327563	0.7438688	2.5190709	
340	00:48.6	574429	6.35303E+12	5.15634E+13	5698.38	0.0275406	0.0225554	0.0824894	0.8521062	0.6978641	2.5139401	
341 342	05:51.3 10:54.1	574429 574430	6.35303E+12 6.35303E+12	5.15634E+13 5.12815E+13	5709.41 5715.13	0.0275406 0.0275406	0.0225554 0.023496	0.0826491 0.0831866	0.8521062 0.8521062	0.6978641 0.7269662	2.5188062 2.5351866	
343	15:58.2	574430	6.35303E+12	5.12815E+13	5712.23	0.0275406	0.023838	0.0831444	0.8521062	0.7375477	2.5339002	
344	21:01.2	574430	6.35303E+12		5713.4	0.0275406	0.0238314	0.0831614			2.5344192	
345	26:05.1	574430	6.35303E+12		5723.95	0.0275406	0.0239138	0.083315	0.8521062			
346 347	31:08.2 36:11.1	574430 574430	6.35303E+12 6.35303E+12		5735.36 5739.01	0.0275406 0.0275406	0.0247866 0.0244687	0.0834811 0.0835342	0.8521062 0.8521062			
348	41:13.9	574430	6.35303E+12	5.12815E+13	5741.24	0.0275406		0.0835666			2.5467688	
349	46:16.8	574430	6.35303E+12		5724.65	0.0275406		0.0833252				
350 351	51:19.5 56:22.3	574432 574432	6.35303E+12 6.35303E+12	4.99455E+13 4.99455E+13	5726.23 5715.44	0.0275406 0.0275406		0.0855777 0.0854165	0.8521062 0.8521062		2.6080579 2.6031435	
351	01:25.2	574432 574432	6.35303E+12 6.35303E+12		5715.44	0.0275406		0.0854165			2.6031435	
353	06:28.2	574433	6.35303E+12		5720.19	0.0275178	0.023935	0.0856661	0.8514007			
354	11:31.5	574435	6.35303E+12		5727.69	0.0275178		0.085909	0.8514007			
355 356	16:34.7 21:37.9	574435 574437	6.35303E+12		5726.31 5731.36	0.0275178 0.0275178		0.0858883 0.0857628	0.8514007 0.8514007			
356	26:41.0	574437	6.35303E+12 6.35303E+12		5735.02	0.0275178		0.0857628			2.6136992	
358	31:44.0	574440	6.35303E+12	4.96931E+13	5745.06	0.0275178		0.0862952				2.6299251
359	36:47.1	574441	6.35303E+12		5742.56			0.0849499			2.5889252	
360 361	41:50.0 46:52.9	574441 574442	6.35303E+12	5.04581E+13 5.28842E+13	5743.71	0.0275178		0.0849669				
362	46:52.9 51:56.2	574442 574442	6.35303E+12 6.35303E+12		5750.85 5746.02	0.0275178 0.0275178	0.0347258 0.0267711	0.0811698 0.0811016	0.8514007 0.8514007		2.4737229 2.4716453	
363	56:59.0	574443	6.35303E+12		5737.61	0.0275178		0.0810771				
364	02:02.6	574443	6.35303E+12	5.28228E+13	5735.06	0.0300242	0.0258787	0.0810411	0.9289487	0.800687	2.4697995	2.4697995
365 366	07:05.8	574443	6.35303E+12		5735.1	0.0300242		0.0810416		0.7655546		
366	12:08.7 17:11.4	574443 574443	6.35303E+12 6.35303E+12	5.28228E+13 5.28228E+13	5755.91 5760.01	0.0300242 0.0300242	0.0249703 0.0252751	0.0813357 0.0813936	0.9289487 0.9289487			
368	22:14.5	574444	6.35303E+12		5754.45	0.0300242		0.0823724		0.7776831	2.4803442	
369	27:17.4	574444	6.35303E+12	5.21447E+13	5767.44	0.0300242	0.0280841	0.0825583	0.9289487	0.8689221	2.5160389	2.5160389
370	32:20.3	574445	6.35303E+12	5.19166E+13	5755.01	0.0300242		0.0827425				
371 372	37:23.3 42:26.9	574446 574446	6.35303E+12 6.35303E+12		5764.68 5756.94	0.0300242 0.0300242	0.0278962 0.0266725	0.0832153 0.0831036		7 0.8631084 7 0.8252472	2.5360608 2.5326557	
373	42:26.9	574446 574446	6.35303E+12 6.35303E+12		5755.95	0.0300242	0.0266725	0.0831036	0.9289487	0.8252472	2.5326557	
374	52:33.2	574448	6.35303E+12	5.19511E+13	5743.01	0.0300242	0.0267197	0.082515	0.9289487	0.8267075	2.5147176	2.5147176
375	57:36.1	574448	6.35303E+12		5714.06	0.0300242	0.0300574	0.082099		0.929976	2.5020411	
376	02:39.4	574448	6.35303E+12		5709.16	0.0291971	0.0270146	0.0820286			2.4998955	
377	07:42.2	574449	6.35303E+12	5.17328E+13	5699.99	0.0291971	0.0251716	0.0822425	0.9033583	0.7788093	2.5064137	2.5064137

$\overline{}$	Δ	B	· ·	D	F	F	G	Н	1	1	l ĸ	1
1	datetime	block height	network_diff	est network hashrate	BTC price	day ahead LMP		breakeven_mining_cost	day_ahead_LMP_rev	real time LMP rev	mining_rev	realized_rev
378	12:45.4	574449		5.17328E+13	5715.31	0.0291971	0.02575		0.9033583		2.5131502	
379	17:48.3	574450	6.35303E+12	5.16724E+13	5717.01	0.0291971	0.0260891	0.0825845	0.9033583	0.8071968	2.5168369	2.5168369
380	22:51.1	574450	6.35303E+12	5.16724E+13	5712.98	0.0291971	0.0257711	0.0825263	0.9033583	0.7973578	2.5150627	2.5150627
381	27:54.3	574450	6.35303E+12	5.16724E+13	5722.03	0.0291971	0.0258512	0.082657	0.9033583	0.7998361	2.5190469	2.5190469
382	32:57.1	574450	6.35303E+12	5.16724E+13	5727.15	0.0291971	0.0255716	0.082731	0.9033583	0.7911853	2.5213009	2.5213009
383	38:00.1	574451	6.35303E+12	5.07309E+13	5728.02	0.0291971	0.0261372	0.0842791	0.9033583	0.808685	2.5684819	2.5684819
384	43:03.0	574453	6.35303E+12	5.08262E+13	5712.01	0.0291971	0.0262532	0.083886	0.9033583	0.812274	2.5565013	2.5565013
385	48:06.4	574454	6.35303E+12	5.11925E+13	5714.36	0.0291971	0.0250628	0.08332	0.9033583	0.775443	2.5392517	2.5392517
386	53:09.2	574454	6.35303E+12	5.11925E+13	5702.85	0.0291971	0.0243144	0.0831522	0.9033583	0.7522875	2.5341371	2.5341371
387	58:12.0	574454	6.35303E+12	5.11925E+13	5709.89	0.0291971	0.0240068	0.0832548	0.9033583	0.7427704	2.5372654	2.5372654
388	03:14.8	574454	6.35303E+12	5.11925E+13	5717.23	0.0316183	0.0251727	0.0833618	0.9782702	0.7788433	2.540527	2.540527
389	08:17.8	574454	6.35303E+12	5.11925E+13	5706.69	0.0316183	0.0241637	0.0832082	0.9782702	0.7476249	2.5358434	2.5358434
390	13:20.8	574454	6.35303E+12	5.11925E+13	5717.65	0.0316183	0.0244866	0.083368	0.9782702	0.7576154	2.5407136	2.5407136

Bearbox v Lancium Trial Exhibit

TX920-12

Let's talk 9AM CST Friday morning. My cell is (985) 377-6257.

Cool, a 1.5MW pilot is ~\$1MM and should take about 6 weeks to fully deploy.

-A

On Nov 28, 2018, at 8:22 AM, Ben Hakes < ben@paretoadvisors.com > wrote:

See my responses below.

A few clarifying questions:

Explain load "behind" substation? I mean that the wind farm sits behind the substation which connects it with the rest of the grid. The mining operation would tap into one of the cable runs that sits between the turbines and the substation. "Behind the meter", one could also say.

Explain \$3/MW - traditionally, this is measured in \$/kWh (and accounts for 85%+ of monthly opex). I mean \$3/MWh or \$0.03/kWh. These guys typically think about selling power by the MWh, so they'll say \$3 or \$0.03 pretty interchangeably (as opposed to retail power which is almost always kWh).

1: Yes to digging more, let's get the NDAs done ASAP.

I will make some calls today about this.

2: 20MW site is ~65 BearBoxes, that'd take 10-12 months (and a load of capital).

Roughly how many acres would you need here? A high-level estimate is fine.

3: 5MW site is ~18 BearBoxes, that'd take 3-4 months ("").

Roughly how many acres would you need here?

If they have enough wind generation a ~\$0/kWh cost of marginal production, it makes sense for them to mine Bitcoin and be the producer of a provably scarce, highly sought after digital commodity.

Exactly. They think this is part of a larger trend as "wires charges" continue to increase as a result of labor/employee benefit/grid maintenance cost but the cost of fuel remains relatively flat.

Let's hop on a call this week - let me know when you're avail.

Mornings before 10am central is best. I can talk as early as 8:00a.

-A

P.S. - We're gonna need more than \$10MM.

Let's assume we right-size the BearBoxes/MW to the funding raise. It is possible that they would want to do a 1-2 MW pilot first, then scale.

On Tue, Nov 27, 2018 at 11:20 PMaustin@bearbox.ioAustin Storms <a ustin@bearbox.io> wrote:

For sure, Ben. I'm glad to hear you're enjoying the classes at Lambda, I've only heard great things and I'm currently lobbying my brother to apply.

It's great that you're keeping your ear to the ground for opportunities and you love Bitcoin - same here!

The deal sounds good, fair, and reasonable.

A few clarifying questions:

Explain load "behind" substation?

Explain \$3/MW - traditionally, this is measured in \$/kWh (and accounts for 85%+ of monthly opex).

- 1: Yes to digging more, let's get the NDAs done ASAP.
- 2: 20MW site is ~65 BearBoxes, that'd take 10-12 months (and a load of capital).
- 3: 5MW site is \sim 18 BearBoxes, that'd take 3-4 months ("").



HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

To: Austin Storms[austin@bearbox.io]; Mike Hoadley[mhoadley@glidepath.net]; Chris

Vickery[cvickery@glidepath.net]

Cc: Ben Hakes[ben@paretoadvisors.com]

From: Denis Labij

Sent: Thur 4/25/2019 3:17:10 PM

Subject: RE: Day-ahead vs. RTBM LMP biz requirements and data questions

Austin,

See comments below in red.

Denis

From: Austin Storms <austin@bearbox.io>
Sent: Thursday, April 25, 2019 12:17 AM

To: Denis Labij <dlabij@glidepath.net>; Mike Hoadley <mhoadley@glidepath.net>; Chris Vickery

<cvickery@glidepath.net>

Cc: Ben Hakes <ben@paretoadvisors.com>

Subject: Day-ahead vs. RTBM LMP biz requirements and data questions

Hey guys,

I've been working on some code for the miner management system that integrates RTBM LMP profitability checks - but have a few questions regarding business requirements and available data feeds.

From my understanding, the day-ahead LMP \$/MWh is calculated based on forecast estimated demand and the RTBM LMP \$/MWh fills the gap between the estimated demand in day-ahead market and actual demand in real-time... is this correct? Sort of. In most ISOs the day-ahead market clears offered and self-scheduled generation against bid and self-scheduled load. Since there can be deviation charges for being off of your day-ahead schedule, I suspect most market participants offer and bid near their forecasts, though there may sometimes be reasons not to. RTBM is based on what is actually happening (ex ante) or actually has happened (ex post) on the system.

The data modeling and system I've been building fetches RTBM LMP price and compares the profitability of selling load @ RTBM LMP vs. using the same load to mine Bitcoin, but I'm not exactly sure what the business requirements are - and I'm looking for a bit of guidance to build the model to show contrasted profitability. You would first want to calculate a break even power price. This will depend on the power efficiency of your units, and the expected revenue per Terra Hash. Let's say this number is estimated to be \$30/MWh. You would either bid DA load at \$30 (i.e. you receive a schedule to draw load if the DA LMP is less than \$30) or you offer a block of generation equal to the capacity of your miner at \$30 (i.e. you receive a schedule to deliver power if the DA LMP is greater than \$30). You would then do the same thing in RT. That is, if the RT LMP is greater than \$30, and you have a DA schedule, you will want to curtail the miner and offset your DA schedule by selling it into the RT instead (this happens automatically as a result of being off of your DA schedule). Similarly, if you have no DA schedule, and prices go below \$30 in RT, you will want to turn your miner on. Settlements can get pretty complicated and may vary from one ISO to the next, but this is the general idea.

The data feed I've been utilizing is from the SPP marketplace - see link here to the 5-minute RTBM (https://marketplace.spp.org/file-api/download/rtbm-lmp-by-location?path=%2FRTBM-LMP-SL-latestInterval.csv). The only problem with fetching the .csv file is that it's a bit finicky - is there another data feed that Glide Path uses to get RTBM LMP pricing at specific node location? There is, but you need to be a market participant with portal access to query it. There is also public access to hourly-average RT prices

TX962

BearBox v. Lancium 21-cv-00534

but, as far as I know, not 5-min prices SPP mentions an FTP server in some of their Feb '18 published documentation, but I've yet to successfully authenticate to that server. If this is part of the portal, you would need a market participant digital certificate with the appropriate permissions.

As always, I appreciate your time, consideration, and helpful input!

Thanks and talk soon,

Austin
Austin M. Storms
BearBox, LLC
611 O' Keefe Avenue
New Orleans, LA 70113
austin@bearbox.io

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Data Center Modules
Turbine Inlet Chilling
Modular Central Plants
Aftermarket Services

1803343 Lancium Data Box R3.2 - 11 May 18

Scope Split

By Lancium	By TAS
	Steel Base
	Steel / Aluminum Wall system
	Inlet Louvers
	Exit Louvers
	Inlet Filters
	Floor Grating
	Entry Doors, qty 2
	Building controls
	Fans – qty 20
	Misting System
	Fire System
	Distribution Panel Boards x qty 2, 1200A
	Utility Lighting
	Provisions for Security Entry
	Busway – requires clean install
	Starline Plug-Ins / Stab boxes
Shelf PDU / Whip?	
Miners – qty 980	
Miner Power Supply – qty 980	
Data Switches – qty ?	
Wire Management	
SCADA	
External stairs/platform for entry	
Data Box Field Installation	
Water supply / storage to feed misting system	
connections	
Electrical distribution to feed TAS Panel Boards	

Lancium Info Needed

- 1. Confirm scope split
- 2. Miner shelves supplied by Lancium or TAS?
- 3. Miner SCADA footprint, conduit and cable requirements
- 4. Miner relative humidity envelope

Bearbox v Lancium Trial Exhibit **TX979**

6110 Cullen Blvd. | Houston, TX 77021 | 713-877-8700 | www.tas.com

Page 2 of 2

- 5. Plan for electrical distribution from Distribution Panel Boards all the way to the Miner Power Supply.
- 6. Confirm fire system media CO2 vs misting system.

Schedule

Initial Build – 4 x 1.6MW Boxes. 10 weeks
5/21 Firm offering
5/25 4D Receive PO, Down payment
6/8 2W Complete Engr & Long lead POs issued
7/13 5W Material receipt
7/27 2W RTS, 2 boxes
8/1 3D RTS, 2 boxes

Mass Build – 63 x 1.6MW Boxes.

8/13 Receive PO, Down payment

9/3 3W Begin fabrication 9/14 2W Receipt of all materials 9/24 1W+ RTS. 1 box per day

9/24-12/24 RTS. 1 box per day (5/week). Off 2D Thanksgiving. Off 5D Christmas.

Discussion Points

Control Narrative – fire, miners, fans, misting system Maintainability – filters, misting system Certifications – UL, other

Revision Tracking

Rev 1 – filter and evap plenum top mounted; 1 MW

Rev 2 - filter and evap plenum bottom mounted; 1 MW

Rev 3.0 – filter and misting system bottom mounted; single box; 1.6MW. 5-8-18

Rev 3.1 – filter and misting system bottom mounted; single box; Busway and Starline plug-in /

stab box to TAS scope. 1.6MW. 5-9-18

Rev 3.2 – updated Lancium questions.

From: Jacob Magin <jacob.magin@mp2energy.com>

To: "ian.rock@lancium.com" <ian.rock@lancium.com>, "recline@lancium.com"

<recline@lancium.com>, "thomas.salvatore@lancium.com"

<thomas.salvatore@lancium.com>, "vitor.henrique@lancium.com"

<vitor.henrique@lancium.com>

Cc: MP2 Asset Operations Desk operations@mp2energy.com>

Subject: ADK_LD1 - Lancium.xlsx

Date: Mon, 26 Aug 2019 11:17:36 -0500

Importance: Normal

Attachments: ADK_LD1_-_Lancium.xlsx

Bearbox v Lancium Trial Exhibit **TX981**

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FRANK C. McCAMANT

PO Box 26921 • Austin, Texas 78755 • frank@mccamantconsulting.com • 512.422.4704

Independent consultant for the electric utilities industry

PROFESSIONAL EXPERIENCE

McCAMANT CONSULTING LLC, Austin, Texas

McCamant Consulting is a business and strategy development partner for organizations involved in energy resource management and smart grid development. Based in Austin, Texas, I help public and private entities develop a strategic focus for their business development efforts — and translate that strategy into action.

Relationships are important to any business, but they are crucial in the electric utility sector. I bring a wealth of executive-level relationships and experience negotiating tough deals while crafting sound public policy. Over the course of my 33-year career, I have tackled some of the toughest utility management challenges on the public agenda. My results-oriented, collaborative style has won the trust and support of stakeholders from the board room to the living room — often in highly charged environments.

Why do public and private industry leaders turn to McCamant Consulting for business and strategy development execution?

Two simple but powerful reasons: Relationships. Results.

Areas of Focus:

- Wholesale power supply PPAs
- ERCOT market stakeholder process/representation
- PUCT regulatory monitoring
- ERCOT market monitoring / analytics
- Demand Response opportunities
- Load Resources
- Power project development / off-take agreements
- Fuel procurement / generation operations
- Expert witness

(www.mccamantconsulting.com)

PROJECT EXPERIENCE

Ranch Land Partnership, South Texas, USA

Subject Matter Expert, ERCOT Market

Mr. McCamant provided advisory services for an independent assessment of a proposed solar farm development. This included securing an experienced engineering subcontractor for the detailed review.

Investor-owned Electric Utility, Missouri/Kansas, USA

October 2021 - November 2021

October 2021 - Present

Independent Assessment/Subject Matter Expert (Utilicast)

Mr. McCamant authored the Generation Operations/Fuel Procurement sections and provided overall review of a comprehensive report assessing the client's response to the extreme cold weather in the region that occurred between February 10, 2021, and February 20, 2021. Utilicast's findings were

TX983

BearBox v. Lancium 21-cv-00534

FRANK C. MCCAMANT • Page 4

delivered in a detailed written report addressing fuel procurement, generation, transmission and distribution operations, market coordination, and communications.

Professional Services Organization, Maryland, USA

September 2021 - Present

Subject Matter Expert, ERCOT Market

Mr. McCamant provided advisory services for developing opportunities for FCC regulatory compliance offerings that service the wireless and utility industries.

Law Firm/Electric Cooperative, Texas, USA

June 2021 - November 2021

Subject Matter Expert, ERCOT Market

Mr. McCamant was an expert rebuttal witness on the ERCOT market design and operation for a contested power plant property tax assessment case.

Electric Cooperative, Johnson City, Texas, USA

March 2021 - June 2021

Subject Matter Expert, Regulatory & Legislative Issues (Utilicast)

Independent Assessment: Mr. McCamant was part of an after-action process and policy review concerning PEC's response to the extreme cold weather in the region that occurred between February 10, 2021 and February 20, 2021. Utilicast was charged with identifying potential gaps and opportunities in PEC's operations during the winter event. Mr. McCamant served as the SME for regulatory and legislative issues.

Non-profit Energy Company, New England, USA

February 2018 – Present

Subject Matter Expert, Transmission Development, Renewables

Mr. McCamant provided advisory services for developing participation opportunities for new transmission projects in the Texas market including PUCT and ERCOT monitoring, relationship development, and ongoing support.

Regulatory Agency, Mexico City, Mexico

October - November 2016

Subject Matter Expert, Demand Response (Utilicast)

Mr. McCamant provided a comprehensive report and recommendations for future implementation of demand response in Mexico's energy market.

Utilicast, Consultant

October 2016 – Present

Subject Matter Expert

Utilicast is more than just a consulting company. We provide our customers in the energy industry with an expert level of service that brings results from both a Business Practices and Information Technology perspective. Our ability to provide customized software development, data knowledge, project management and deep business acumen helps Utilicast clients meet their goals on time and on budget. Headquartered in Seattle, Washington. (http://www.utilicast.com)

Telecommunications Network Company, Raleigh, NC, USA

May 2015

Subject Matter Expert

Mr. McCamant provided research and a presentation on the characteristics and potential growth of energy storage resources.

Electric Cooperative, Bandera, Texas, USA

March 2014 - Present

Subject Matter Expert, Wholesale power supply, Demand Response, Smart Grid, Distributed Energy Resources

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, and demand response opportunities.

FRANK C. MCCAMANT • Page 3

Crescent Power, Inc., Austin, TX, USA

October 2013 - Present

VP, Asset Development

Mr. McCamant was part of a strategic consulting alliance that provided advisory and marketing support services for power project development clients and related off-take agreements, PUCT monitoring, and ERCOT market monitoring and analytics.

Consert, Inc., San Antonio, TX, USA

October 2011 – February 2013

Board Director

Consert Inc. is a thought and action leader in the design and implementation of intelligent energy distribution and load management. Consert converts electric consumption in homes and small businesses into cost-effective, clean sources of capacity and energy reserves for utilities. The Consert load management solution is based on real-time, wireless technology which allows participants to conserve energy using a web-based, home area network. Consert utilizes the Verizon Wireless network to provide real-time communication to the Consert data center. This highly secure network delivers fast data speeds and increased efficiencies for utilities.

Municipal Electric Utility, San Marcos, TX, USA

August 2011 – Present

Subject Matter Expert, Wholesale power supply, Distributed Energy Resources

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, and ERCOT market monitoring / analytics.

Smart Grid Company, Raleigh, NC/ San Antonio, TX, USA November 2009 – September 2014 Subject Matter Expert, Marketing

Mr. McCamant provided advisory and marketing support services for demand response development for Smart Grid applications and related resource agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Independent Project Developer, Houston, TX, USA

July 2009 – June 2013

Subject Matter Expert, Marketing

Mr. McCamant provided advisory and marketing support services for power project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Small Consulting Company, Austin, TX, USA

May 2009 – October 2009

Subject Matter Expert

Mr. McCamant provided advisory and support services for energy efficiency/demand response projects.

Regional Engineering Firm, Austin, TX, USA

October 2008 – November 2010

Subject Matter Expert, Marketing

Mr. McCamant provided advisory and marketing support services for a pumped storage project development and related off-take agreements, PUCT monitoring, ERCOT market monitoring and analytics.

Electric Cooperative, Bastrop, Texas, USA

September 2008 – Present

Subject Matter Expert, Wholesale power supply, Demand Response, Smart Grid, Distributed Energy Resources

Mr. McCamant provided advisory and support services for wholesale power supply PPAs, ERCOT market stakeholder process/representation, PUCT monitoring, ERCOT market monitoring / analytics, demand response opportunities, and Load Resources.

FRANK C. MCCAMANT • Page 4

Lower Colorado River Authority, Austin, TX, USA

May 1978 – September 2008

Executive Management, Business Development, Strategic Planning, Fuels Development Business Development: Led efforts to successfully develop, negotiate, and implement major electric generation, electric transmission, and water utility development agreements. Led efforts to successfully establish public input and collaboration processes on controversial utility projects. Researched and established key external relationships and alliances.

Strategic Planning: Monitored high-level policy issues across the company and helped establish processes to resolve key issues at the board level. Established a corporate-level strategic planning process with senior management and board of directors. Developed strategic generation fuel portfolio to forecast and manage pricing structure and risk that resulted in lowest cost fuel in Texas; enabled company to gain competitive edge. Developed proposal and led initial effort to evaluate the viability of multi-million dollar acquisition partnership.

Financial Planning: Executive level steering committee that provided in-depth review and approval of financial policy, capital spending and long-term planning. Implemented and administered a capital budget process for diverse business units.

Administered multi-million dollar engineering/construction projects that consistently met timelines and budget constraints. Re-evaluated major gas storage project to determine validity of continuing the project; made immediate significant change to return the project to financial viability. Negotiated rail transportation contracts for fuel supplies that reduced cost by 33%.

Business Management: Utilized knowledge of contract law and mediation in the negotiation and administration of multi-million dollar contracts. Highly skilled in accurately defining problems and formulating collaborative teams to resolve issues. Restructured customer/community relations function implementing a regional representative plan that has proven successful in developing relationships and enhancing the company's image.

Electric Deregulation: Initiated and chaired a national coalition (Large Public Power Council) task force focused on responding to federal/state policy issues relating to the restructuring of the electric utility industry. Monitored electric industry restructuring and lead the development of strategic, operational, and legislative action plans.

OTHER EXPERIENCE

Electric Utility, Austin, TX, USA

December 1977 - May 1978

Staff Engineer

Provided engineering support for the construction of a large jointly-owned Western coal power plant.

EDUCATION

University of Texas at Austin, TX

Executive MBA

With honors, international studies in London.

University of Texas at Austin, TX

B.S. Civil Engineering

With honors, Beta Sigma Gamma, Phi Kappa Phi.

SKILLS AND EXPERTISE

Smart Grid, Project Management, Vendor Management, Customer management, Power Marketing, Business Design, Market Design, Microsoft Office, Data Analysis, Energy Markets, Electricity Markets, Electric Power, Process Improvement, FERC, Energy Management, Program Management, Smart Metering, Power Systems, Business Process, Strategy, Project Planning, Power Generation,

FRANK C. MCCAMANT • Page 3

Engineering, Energy Policy, Energy Industry, Energy, Demand Response, Business Process Improvement, Integration

CERTIFICATIONS

Registered Professional Engineer • State of Texas • No. 51967

LANGUAGES

Native English and Basic German

APPOINTMENTS & HONORS

President/Chair – Arc of the Capital Area Board of Directors (past)

Texas Council on Autism & Pervasive Developmental Disorders (past)

Board Member – Hope Chapel (past)

Metropolitan Board of the Austin YMCA (past) Western Coal Traffic League Executive Board (past)

Member – Large Public Power Council - Electric Restructuring Task Force (past Chair)

Honor Societies – Beta Sigma Gamma

HOBBIES

Fly Fishing, Upland Hunting, Ranching, Photography, Music, and Traveling

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File Extension	xlsx
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Date Modified	
Date Created	5/9/2019 16:28
Author	
Filename	exelon4_modeling_05092019 (1).xlsx
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BearBox v. Lancium 21-cv-00534

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81 5686.01 574914 0.0818977 5/6/19 18:49 0.0188872 0.58437 5.18232E+13 2.4959076 6.70217E+12 0.0059357 0.1836 82 5685.94 574915 0.0814507 5/6/19 18:54 0.0188872 0.58437 5.21069E+13 2.4822846 6.70217E+12 -0.001344 -0.0350 83 5683.4 574915 0.0814144 5/6/19 19:59 0.0188872 0.58437 5.21069E+13 2.4811757 6.70217E+12 0.0001344 -0.0350 84 5694.85 574915 0.0815784 5/6/19 19:04 0.0193163 0.5976463 5.21069E+13 2.4811757 6.70217E+12 0.0002833 0.0087 85 5721.14 574915 0.0815784 5/6/19 19:90 0.0193163 0.5976463 5.21069E+13 2.480744 6.70217E+12 0.0022833 0.0087 86 5732.53 574915 0.0821181 5/6/19 19:14 0.0193163 0.5976463 5.21069E+13 2.5026242 6.70217E+12 0.0016449 0.0588 87 <td< td=""><td>2.540262</td><td>0.0892681</td><td>0.0028852</td><td>6.70217E+12</td><td>2.540262</td><td>5.1027E+13</td><td>0.58437</td><td>0.0188872</td><td>5/6/19 18:39</td><td></td><td></td><td></td><td>79</td></td<>	2.540262	0.0892681	0.0028852	6.70217E+12	2.540262	5.1027E+13	0.58437	0.0188872	5/6/19 18:39				79
82 5685.94 574915 0.0814507 5/6/19 18:54 0.0188872 0.58437 5.21069E+13 2.4822846 6.70217E+12 -0.0011344 -0.0350 83 5683.4 574915 0.0814144 5/6/19 18:59 0.0188872 0.58437 5.21069E+13 2.4811757 6.70217E+12 0.0001905 0.0058 84 5694.85 574915 0.0815784 5/6/19 19:04 0.0193163 0.5976463 5.21069E+13 2.4861744 6.70217E+12 0.002833 0.0087 85 5721.14 574915 0.081955 5/6/19 19:09 0.0193163 0.5976463 5.21069E+13 2.4976517 6.70217E+12 0.0025406 0.0786 86 5732.53 574915 0.0821181 5/6/19 19:14 0.0193163 0.5976463 5.21069E+13 2.5026242 6.70217E+12 0.0016449 0.0508 87 5732.74 574915 0.0821211 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.5027159 6.70217E+12 0.0041178 0.1274 88 <t< td=""><td>_</td><td>0.2054756</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></t<>	_	0.2054756											-
83 5683.4 574915 0.0814144 5/6/19 18:59 0.0188872 0.58437 5.21069E+13 2.4811757 6.70217E+12 0.0001905 0.0058 84 5694.85 574915 0.0815784 5/6/19 19:04 0.0193163 0.5976463 5.21069E+13 2.4861744 6.70217E+12 0.0002833 0.0087 85 5721.14 574915 0.081955 5/6/19 19:09 0.0193163 0.5976463 5.21069E+13 2.4976517 6.70217E+12 0.0025406 0.0786 86 5732.53 574915 0.0821181 5/6/19 19:14 0.0193163 0.5976463 5.21069E+13 2.5026242 6.70217E+12 0.0016449 0.0588 87 5732.74 574915 0.0821211 5/6/19 19:19 0.0193163 0.5976463 5.21069E+13 2.5027159 6.70217E+12 0.0041178 0.1274 88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.501607 6.70217E+12 0.0000117E+12 0.000019 -0.0005		0.1836506 -0.0350983											
84 5694.85 574915 0.0815784 5/6/19 19:04 0.0193163 0.5976463 5.21069E+13 2.4861744 6.70217E+12 0.0002833 0.0087 85 5721.14 574915 0.081955 5/6/19 19:09 0.0193163 0.5976463 5.21069E+13 2.4976517 6.70217E+12 0.0025406 0.0786 86 5732.53 574915 0.0821181 5/6/19 19:14 0.0193163 0.5976463 5.21069E+13 2.5026242 6.70217E+12 0.0016449 0.0508 87 5732.74 574915 0.0821211 5/6/19 19:19 0.0193163 0.5976463 5.21069E+13 2.5027159 6.70217E+12 0.00014178 0.1274 88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.501607 6.70217E+12 -0.000019 -0.0005 89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 2.5046935 6.70217E+12 -0.0000208 -0.0062 90		0.0058941											
86 5732.53 574915 0.0821181 5/6/19 19:14 0.0193163 0.5976463 5.21069E+13 2.5026242 6.70217E+12 0.0016449 0.0508 87 5732.74 574915 0.0821211 5/6/19 19:19 0.0193163 0.5976463 5.21069E+13 2.5027159 6.70217E+12 0.0041178 0.1274 88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.501607 6.70217E+12 -0.00019 -0.0052 89 5737.27 574915 0.0821086 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 2.5046935 6.70217E+12 -0.000228 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 2.5022793 6.70217E+12 0.000228	653 2.4861744	0.0087653	0.0002833	6.70217E+12	2.4861744	5.21069E+13	0.5976463	0.0193163	5/6/19 19:04	0.0815784	574915	5694.85	84
87 5732.74 574915 0.0821211 5/6/19 19:19 0.0193163 0.5976463 5.21069E+13 2.5027159 6.70217E+12 0.0041178 0.1274 88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.501607 6.70217E+12 -0.000019 -0.0005 89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 2.5046935 6.70217E+12 -0.000208 -0.0062 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 2.5022793 6.70217E+12 -0.000208 -0.0062 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 2.5022793 6.70217E+12 0.0002309 0.007													
88 5730.2 574915 0.0820848 5/6/19 19:24 0.0193163 0.5976463 5.21069E+13 2.501607 6.70217E+12 -0.000019 -0.0005 89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 2.5046935 6.70217E+12 -0.000208 -0.0062 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 2.5022793 6.70217E+12 0.0002309 0.007	_												\rightarrow
89 5737.27 574915 0.082186 5/6/19 19:29 0.0193163 0.5976463 5.21069E+13 2.5046935 6.70217E+12 -0.0002028 -0.0062 90 5731.74 574915 0.0821068 5/6/19 19:34 0.0193163 0.5976463 5.21069E+13 2.5022793 6.70217E+12 0.0002309 0.007		 											
	2.5046935	-0.0062746	-0.0002028	6.70217E+12	2.5046935	5.21069E+13	0.5976463	0.0193163	5/6/19 19:29	0.082186	574915	5737.27	89
		0.007144											\rightarrow
		0.4049087 0.3803547	0.0130869	6.70217E+12 6.70217F+12	2.5006204	5.21069E+13 5.21069E+13	0.5976463 0.5976463	0.0193163			574915 574915	5727.94 5741.23	91
		0.2759631											-
		0.0660724											

	Α	В	С	D	E	F	G	Н	1	J	К	L
95 96	5745.01 5763.99	574916 574916		5/6/19 20:00 5/6/19 20:05	0.0241251 0.0241251	0.7464306 0.7464306	4.9508E+13 4.9508E+13	2.6397319 2.6484528	6.70217E+12 6.70217E+12	-0.001813 -0.0003708	-0.0560942 -0.0114726	2.6397319 2.6484528
97	5769.68	574916		5/6/19 20:10	0.0241251	0.7464306	4.9508E+13	2.6510673	6.70217E+12	0.0062241	0.1925737	2.6510673
98	5769.14	574917		5/6/19 20:15	0.0241251	0.7464306	4.88133E+13	2.6885453	6.70217E+12	0.0116013	0.3589442	2.6885453
99	5755.39	574917	0.0880085		0.0241251	0.7464306	4.88133E+13	2.6821375	6.70217E+12	0.0009813	0.0303614	2.6821375
100	5754.1 5771.1	574917 574917	0.0879887	5/6/19 20:25 5/6/19 20:30	0.0241251 0.0241251	0.7464306 0.7464306	4.88133E+13 4.88133E+13	2.6815363 2.6894587	6.70217E+12 6.70217E+12	-0.0161407 -0.0174708	-0.4993933 -0.5405466	2.6815363 2.6894587
101	5764.05	574918	0.0890788		0.0241251	0.7464306	4.82994E+13	2.714756	6.70217E+12	-0.0174708	-0.541713	2.714756
103	5752.2	574918	0.0888956		0.0241251	0.7464306	4.82994E+13	2.7091749	6.70217E+12	-0.0038463	-0.1190045	2.7091749
104	5755.49	574918		5/6/19 20:45	0.0241251	0.7464306	4.82994E+13		6.70217E+12	-0.0004318	-0.0133599	2.7107244
105 106	5762.02 5760.7	574919 574919	0.0902091 0.0901884	5/6/19 20:50 5/6/19 20:55	0.0241251 0.0241251	0.7464306 0.7464306	4.76774E+13 4.76774E+13	2.7492027 2.7485729	6.70217E+12 6.70217E+12	0.0004104 -0.0009508	0.0126978 -0.0294178	2.7492027 2.7485729
106	5762.49	5/4919	0.0902164		0.0241231	0.5416697	4.76774E+13	2.7483729	6.70217E+12	0.0009308	0.0218839	2.7483729
108	5774.99	574920		5/6/19 21:19	0.0175071	0.5242793	4.74463E+13	2.9553058	6.70217E+12	-0.0013119	-0.039287	2.9553058
109	5844.99	574922		5/6/19 21:44	0.0175071	0.5242793	4.66555E+13	3.0418256	6.70217E+12	-0.0118157	-0.3538408	3.0418256
110 111	5844.99	574922		5/6/19 21:44 5/6/19 21:45	0.0175071	0.5242793	4.66555E+13 4.66555E+13	3.0418256 3.0418256	6.70217E+12 6.70217E+12	-0.0118157	-0.3538408	3.0418256
112	5844.99 5844.99	574922 574922		5/6/19 21:45	0.0175071 0.0175071	0.5242793 0.5242793	4.66555E+13 4.66555E+13	3.0418256	6.70217E+12 6.70217E+12	-0.0118157 -0.0118157	-0.3538408 -0.3538408	3.0418256 3.0418256
113	5843.89	574923	0.1041911		0.0175071	0.5242793	4.61679E+13	3.0733748	6.70217E+12	0.0001052	0.0031504	3.0733748
114	5889.14	574923	0.1049979		0.0175071	0.5242793	4.61679E+13	3.0971724	6.70217E+12	0.0047856	0.1433128	3.0971724
115	5938.96	574925	0.1060149		0.0137884	0.4129166	4.61118E+13	3.1271721	6.70217E+12	0.0012328	0.0369183	3.1271721
116 117	5924.06 5904.4	574925 574925	0.105749	5/6/19 22:07 5/6/19 22:15	0.0137884 0.0137884	0.4129166 0.4129166	4.61118E+13 4.61118E+13	3.1193265 3.1089744	6.70217E+12 6.70217E+12	-0.0183554 -0.0038279	-0.549683 -0.1146328	3.1193265 3.1089744
118	5904.4	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1089744	6.70217E+12	-0.0038279	-0.1146328	3.1089744
119	5906.55	574925	0.1054364	5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
120	5906.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.61118E+13	3.1101065	6.70217E+12	-0.0038279	-0.1146328	3.1101065
121 122	5906.55 5906.55	574925 574925	0.1054364 0.1054364	5/6/19 22:16 5/6/19 22:16	0.0137884 0.0137884	0.4129166 0.4129166	4.61118E+13 4.61118E+13	3.1101065 3.1101065	6.70217E+12 6.70217E+12	-0.0038279 -0.0038279	-0.1146328 -0.1146328	3.1101065 3.1101065
123	5900.55	574925		5/6/19 22:16	0.0137884	0.4129166	4.59309E+13	3.1101065	6.70217E+12 6.70217E+12	0.0035913	0.1075475	3.119251
124	5904.02	574929	0.1030516	5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
125	5904.02	574929		5/6/19 22:30	0.0137884	0.4129166	4.71587E+13	3.0397615	6.70217E+12	-0.0015977	-0.0478458	3.0397615
126 127	5898.4 5893.05	574930 574930		5/6/19 22:35 5/6/19 22:37	0.0137884 0.0137884	0.4129166 0.4129166	4.70713E+13 4.70713E+13	3.0425064 3.0397468	6.70217E+12 6.70217E+12	-0.0289922 -0.0289922	-0.8682197 -0.8682197	3.0425064 3.0397468
128	5897.36	574930		5/6/19 22:42	0.0137884	0.4129166	4.70713E+13 4.70713E+13	3.04197	6.70217E+12	-0.0289922	-0.7095114	3.04197
129	5899.22	574931	0.1032757	5/6/19 22:47	0.0137884	0.4129166	4.70181E+13	3.046371	6.70217E+12	-0.0155618	-0.466024	3.046371
130	5901.5	574931	0.1033156		0.0137884	0.4129166	4.70181E+13	3.0475484	6.70217E+12	-0.0215767	-0.6461502	3.0475484
131 132	5895.01 5882.85	574932 574943	0.1028817 0.1003326		0.0137884 0.0098383	0.4129166 0.2946243	4.71645E+13 4.8263E+13	3.0347496 2.9595589	6.70217E+12 6.70217E+12	-0.0188905 -0.002652	-0.5657075 -0.0794186	3.0347496 2.9595589
133	5891.99	574943	0.1004885	5/7/19 0:07	0.0098383	0.2946243	4.8263E+13	2.9641571	6.70217E+12	0.0003922	0.0117451	2.9641571
134	5896.7	574944	0.1020246	5/7/19 0:12	0.0098383	0.2946243	4.75743E+13	3.0094662	6.70217E+12	0.0109642	0.3283412	3.0094662
135	5903.84	574944 574944	0.1021481	5/7/19 0:17	0.0098383	0.2946243	4.75743E+13	3.0131102	6.70217E+12	0.0001877	0.005621	3.0131102
136 137	5911.06 5885.39	574944	0.102273 0.1028414		0.0098383 0.0098383	0.2946243 0.2946243	4.75743E+13 4.71059E+13	3.0167951 3.0335618	6.70217E+12 6.70217E+12	-0.0190565 -0.005721	-0.5706787 -0.1713249	3.0167951 3.0335618
138	5895.99	574945	0.1030267	5/7/19 0:32	0.0098383	0.2946243	4.71059E+13	3.0390254	6.70217E+12	0.005387	0.1613227	3.0390254
139	5897.07	574945	0.1030455		0.0098383	0.2946243	4.71059E+13	3.0395821	6.70217E+12	0.0090961	0.2723979	3.0395821
140 141	5898.51	574945 574945	0.1030707 0.1031315	5/7/19 0:42	0.0098383 0.0098383	0.2946243	4.71059E+13 4.71059E+13	3.0403243 3.0421181	6.70217E+12 6.70217E+12	0.0000416 0.0002217	0.0012458 0.0066392	3.0403243 3.0421181
141	5901.99 5889.59	574945 574946	0.1031315		0.0098383	0.2946243 0.2946243	4.71059E+13 4.64716E+13	3.0421181	6.70217E+12 6.70217E+12	-0.0026672	-0.0798737	3.0421181
143	5889.01	574947	0.1040736		0.0098383	0.2946243	4.65768E+13	3.0699085	6.70217E+12	-0.0003307	-0.0099034	3.0699085
144	5877.69	574947	0.1038736	-, , -	0.0105202	0.3150449	4.65768E+13	3.0640074	6.70217E+12	-0.0003011	-0.0090169	3.0640074
145 146	5889.43 5887.99	574948 574948	0.1042298 0.1042043	5/7/19 1:07 5/7/19 1:12	0.0105202 0.0105202	0.3150449 0.3150449	4.65104E+13 4.65104E+13	3.0745154 3.0737637	6.70217E+12 6.70217E+12	-0.0001362 0.0091898	-0.0040787 0.2752039	3.0745154 3.0737637
147	5867.4	574948	0.1038399		0.0105202	0.3150449	4.65104E+13	3.0630149	6.70217E+12	0.0091883	0.275159	3.0630149
148	5883.85	574950	0.1044213	5/7/19 1:22	0.0105202	0.3150449	4.63811E+13	3.0801634	6.70217E+12	0.0098517	0.2950256	3.0801634
149	5871.24 5870.35	574950 574950	0.1041975 0.1041817	5/7/19 1:27	0.0105202 0.0105202	0.3150449 0.3150449	4.63811E+13	3.0735621 3.0730962	6.70217E+12 6.70217E+12	0.0110652 0.0117356	0.3313659 0.3514421	3.0735621 3.0730962
150 151	5880.51	574950	0.104362		0.0105202	0.3150449	4.63811E+13 4.63811E+13				0.3422844	
152	5887.56	574951	0.1056193		0.0105202	0.3150449	4.58839E+13		6.70217E+12	0.0158031	0.4732502	3.1155019
153	5888.94	574951	0.1056441	5/7/19 1:47	0.0105202	0.3150449	4.58839E+13		6.70217E+12	0.0139082	0.4165042	3.1162321
154 155	5890.07 5887.93	574951 574952	0.1056643 0.1061226		0.0105202 0.0105202	0.3150449 0.3150449	4.58839E+13 4.56692E+13	3.1168301 3.1303483	6.70217E+12 6.70217E+12	0.0141407 0.0129154	0.4234668 0.3867732	3.1168301 3.1303483
156	5887.93	574952	0.1051226	5/7/19 1:57	0.0105202	0.3150449	4.57927E+13	3.1303483	6.70217E+12 6.70217E+12	0.0129154	0.4252966	3.1303483
157	5880.52	574954	0.1043159	5/7/19 2:07	0.011378	0.3407332	4.64017E+13	3.0770561	6.70217E+12	0.0139436	0.4175643	3.0770561
158	5875.01	574954	0.1042182		0.011378	0.3407332	4.64017E+13	3.074173	6.70217E+12	0.0105143	0.3148682	3.074173
159 160	5873.6 5871.85	574954 574955	0.1041932 0.1044686	5/7/19 2:17 5/7/19 2:22	0.011378 0.011378	0.3407332 0.3407332	4.64017E+13 4.62656E+13	3.0734352 3.0815582	6.70217E+12 6.70217E+12	0.0094361 0.0088951	0.2825797 0.2663786	3.0734352 3.0815582
161	5871.01	574956	0.103617	5/7/19 2:27	0.011378	0.3407332	4.66391E+13	3.0564397	6.70217E+12	0.0088931	0.2787196	3.0564397
162	5859.85	574956	0.1034201	5/7/19 2:32	0.011378	0.3407332	4.66391E+13	3.0506298	6.70217E+12	0.0120542	0.3609831	3.0506298
163	5865.94	574956 574956	0.1035275	5/7/19 2:37	0.011378	0.3407332	4.66391E+13	3.0538003	6.70217E+12	0.0128926	0.3860904	3.0538003
164 165	5869.1 5877.6	574956 574956	0.1035833 0.1037333		0.011378 0.011378	0.3407332 0.3407332	4.66391E+13 4.66391E+13	3.0554454 3.0598705	6.70217E+12 6.70217E+12	0.0141064 0.0141304	0.4224397 0.4231584	3.0554454 3.0598705
166	5877.18	574957	0.1057538		0.011378	0.3407332	4.57448E+13		6.70217E+12	0.0141067	0.4224486	3.1194692
167	5885.01	574958	0.1054291	5/7/19 2:57	0.011378	0.3407332	4.59468E+13	3.1098919	6.70217E+12	0.0188926	0.5657704	3.1098919
168 169	5882.93 5880.11	574959 574959	0.1056834 0.1056328		0.0110606 0.0110606	0.3312281 0.3312281	4.582E+13 4.582E+13		6.70217E+12 6.70217E+12	0.0159616 0.0162983	0.4779967 0.4880798	3.1173937 3.1158994
170	5876.76	574959	0.1055726		0.0110606	0.3312281	4.582E+13		6.70217E+12 6.70217E+12	0.0162983	0.3706529	3.1138994
171	5875.44	574959	0.1055489	5/7/19 3:17	0.0110606	0.3312281	4.582E+13	3.1134247	6.70217E+12	0.0104838	0.3139549	3.1134247
172	5868.65	574959	0.1054269		0.0110606	0.3312281	4.582E+13	3.1098266	6.70217E+12	0.0135372	0.405394	3.1098266
173 174	5871.6 5871.6	574959 574959	0.1054799 0.1054799		0.0110606 0.0110606	0.3312281 0.3312281	4.582E+13 4.582E+13		6.70217E+12 6.70217E+12	0.0142273 0.0143862	0.4260602 0.4308187	3.1113899 3.1113899
175	5877.57	574959	0.1055871		0.0110606	0.3312281	4.582E+13		6.70217E+12	0.0143802	0.4273868	3.1145534
176	5876.48	574959	0.1055676	5/7/19 3:42	0.0110606	0.3312281	4.582E+13	3.1139758	6.70217E+12	0.0142134	0.425644	3.1139758
177	5868.98	574960	0.109055		0.0110606	0.3312281	4.42981E+13		6.70217E+12	0.0124885	0.3739889	3.2168461
178 179	5865.34 5869.73	574960 574961	0.1089874 0.1097753	5/7/19 3:52 5/7/19 3:57	0.0110606 0.0110606	0.3312281 0.3312281	4.42981E+13 4.40131E+13		6.70217E+12 6.70217E+12	0.0128153 0.0125425	0.3837755 0.3756061	3.2148509 3.2380924
180	5876.57	574961	0.1097733		0.0110606	0.3965657	4.46763E+13	3.2380924	6.70217E+12 6.70217E+12	0.0123423	0.359929	3.2380924
181	5864.77	574962	0.1080544	5/7/19 4:07	0.0132424	0.3965657	4.46763E+13	3.1873313	6.70217E+12	0.0116681	0.3494207	3.1873313
182	5870.49	574963	0.1086102		0.0132424	0.3965657	4.4491E+13	3.2037267	6.70217E+12	0.012883	0.3858029	3.2037267
183 184	5892.85 5893.36	574964 574964	0.1086378 0.1086472	5/7/19 4:17 5/7/19 4:22	0.0132424 0.0132424	0.3965657 0.3965657	4.46491E+13 4.46491E+13	3.2045387 3.204816	6.70217E+12 6.70217E+12	0.0113387 0.0115719	0.3395563 0.3465398	3.2045387 3.204816
185	5890.81	574964	0.1086002		0.0132424	0.3965657	4.46491E+13	3.2034293	6.70217E+12	0.0113713	0.3550087	3.2034293
186	5894.23	574965	0.1080396	5/7/19 4:32	0.0132424	0.3965657	4.49069E+13	3.1868941	6.70217E+12	0.0122344	0.3663795	3.1868941
187	5898.56	574965	0.108119	5/7/19 4:37 5/7/19 4:42	0.0132424	0.3965657	4.49069E+13		6.70217E+12	0.0138738	0.4154741	3.1892353
188	5908.64	574965	0.1083037	5/ // 19 4:42	0.0132424	0.3965657	4.49069E+13	3.1946853	6.70217E+12	0.014388	0.4308726	3.1946853

100	A	B	C 0.4004222	D	E	F 20055657	G	H I	J	K	L 2.4004025
189 190	5915.11 5909.7	574965 574965	0.1084223 0.1083231	5/7/19 4:47 5/7/19 4:52	0.0132424 0.0132424	0.3965657 0.3965657	4.49069E+13 4.49069E+13	3.1981835 6.70217E+12 3.1952584 6.70217E+12		0.4977855 0.4331156	3.1981835 3.1952584
191	5906.81	574966	0.1085559	5/7/19 4:57	0.0132424	0.3965657	4.47887E+13	3.2021242 6.70217E+12		0.4403358	3.2021242
192	5914.74	574966	0.1087016		0.0163996	0.4911134	4.47887E+13	3.2064231 6.70217E+12	0.0082133	0.245961	3.2064231
193	5917.1	574967	0.109481	5/7/19 5:07	0.0163996	0.4911134	4.44875E+13	3.2294129 6.70217E+12		0.4126531	3.2294129
194	5912.39	574967	0.1093939	5/7/19 5:12	0.0163996	0.4911134	4.44875E+13	3.2268423 6.70217E+12	0.0156701	0.4692673	3.2268423
195	5894.35	574968	0.1094478	5/7/19 5:17	0.0163996	0.4911134	4.433E+13	3.2284315 6.70217E+12		0.4386827	3.2284315
196	5898.35	574968	0.109522	5/7/19 5:22	0.0163996	0.4911134	4.433E+13	3.2306223 6.70217E+12	0.0145908	0.4369458	3.2306223
197 198	5902.16 5900.85	574969 574969	0.1079698 0.1079458	5/7/19 5:27 5/7/19 5:32	0.0163996 0.0163996	0.4911134 0.4911134	4.49963E+13 4.49963E+13	3.1848344 6.70217E+12 3.1841275 6.70217E+12		0.4658623 0.4034894	3.1848344 3.1841275
198	5900.85	574969	0.1079365	5/7/19 5:37	0.0163996	0.4911134	4.49963E+13	3.1838523 6.70217E+12		0.3917144	3.1838523
200	5898.32	574969	0.1078995	5/7/19 5:42	0.0163996	0.4911134	4.49963E+13	3.1827623 6.70217E+12		0.4553361	3.1827623
201	5896.02	574970	0.1092694	5/7/19 5:47	0.0163996	0.4911134	4.44149E+13	3.2231712 6.70217E+12		0.4603941	3.2231712
202	5901.06	574971	0.1070272	5/7/19 5:52	0.0163996	0.4911134	4.53842E+13	3.1570311 6.70217E+12	0.0162384	0.486286	3.1570311
203	5889.23	574971	0.1068126	5/7/19 5:57	0.0163996	0.4911134	4.53842E+13	3.1507021 6.70217E+12		0.4274168	3.1507021
204	5888.81	574971	0.106805	5/7/19 6:02	0.0219988	0.6587907	4.53842E+13	3.1504774 6.70217E+12	0.0140196	0.4198403	3.1504774
205 206	5888.88	574971 574971	0.1068063	5/7/19 6:07	0.0219988 0.0219988	0.6587907	4.53842E+13	3.1505149 6.70217E+12 3.1537837 6.70217E+12	0.0128572	0.3850303 0.4189569	3.1505149 3.1537837
206	5894.99 5888.93	574971	0.1069171 0.1083283	5/7/19 6:12 5/7/19 6:17	0.0219988	0.6587907 0.6587907	4.53842E+13 4.47469E+13		0.0139901 0.0169327	0.4189369	3.1954116
208	5883.23	574973	0.1082235	5/7/19 6:22	0.0219988	0.6587907	4.47469E+13	3.1923187 6.70217E+12	0.0161834	0.4846389	3.1923187
209	5874.07	574973	0.108055	5/7/19 6:27	0.0219988	0.6587907	4.47469E+13	3.1873483 6.70217E+12		0.4799103	3.1873483
210	5873.01	574975	0.1081041	5/7/19 6:32	0.0219988	0.6587907	4.47185E+13	3.1887959 6.70217E+12	0.0161849	0.4846838	3.1887959
211	5877.1	574977	0.1051264	5/7/19 6:37	0.0219988	0.6587907	4.60172E+13			0.4817999	3.1009613
212	5883.19	574977	0.1052353	5/7/19 6:42	0.0219988	0.6587907	4.60172E+13	3.1041746 6.70217E+12		0.5477245	3.1041746
213 214	5883.91 5887.01	574979 574980	0.1039877 0.1024096	5/7/19 6:47	0.0219988 0.0219988	0.6587907 0.6587907	4.6575E+13 4.73176E+13	3.0673739 6.70217E+12 3.0208243 6.70217E+12		0.5905273	3.0673739
214	5890.93	574980 574981	0.1024096	5/7/19 6:52 5/7/19 6:57	0.0219988	0.6587907	4.73176E+13 4.73708E+13	3.0208243 6.70217E+12 3.0194404 6.70217E+12		0.5169513 0.658629	3.0208243 3.0194404
216	5891.99	574981	0.1023827	5/7/19 7:02	0.0219988	0.7551232	4.73708E+13	3.0199837 6.70217E+12	-	0.5715441	3.0194404
217	5901.6	574981	0.1025481	5/7/19 7:07	0.0252156	0.7551232	4.73708E+13	3.0249094 6.70217E+12	0.022021	0.6594555	3.0249094
218	5900.12	574982	0.1027094	5/7/19 7:12	0.0252156	0.7551232	4.72845E+13	3.0296666 6.70217E+12	0.019538	0.585098	3.0296666
219	5902.76	574983	0.1021815	5/7/19 7:17	0.0252156	0.7551232	4.75501E+13	3.0140942 6.70217E+12	0.0208005	0.6229056	3.0140942
220	5901.94	574985	0.1025203	5/7/19 7:22	0.0252156	0.7551232	4.73864E+13	3.0240881 6.70217E+12		0.9997515	3.0240881
221	5902.21 5897.09	574986 574987	0.1024856 0.1012514	5/7/19 7:27	0.0252156	0.7551232	4.74046E+13 4.79408E+13	3.0230648 6.70217E+12 2.9866604 6.70217E+12	0.0226755	0.6790556 0.7745885	3.0230648
222	5897.09	574987 574988	0.1012514	5/7/19 7:32 5/7/19 7:37	0.0252156 0.0252156	0.7551232 0.7551232	4.79408E+13 4.84152E+13	2.9866604 6.70217E+12 2.9545379 6.70217E+12		0.7745885	2.9866604 2.9545379
224	5896.98	574988	0.1001024	5/7/19 7:42	0.0252156	0.7551232	4.84152E+13	2.9573413 6.70217E+12		0.5434032	2.9573413
225	5915.01	574989	0.0992602	5/7/19 7:47	0.0252156	0.7551232	4.90511E+13	2.9279253 6.70217E+12		0.5259174	2.9279253
226	5909.89	574989	0.0991743	5/7/19 7:52	0.0252156	0.7551232	4.90511E+13	2.9253909 6.70217E+12	0.0176235	0.5277651	2.9253909
227	5907.41	574990	0.0997661	5/7/19 7:57	0.0252156	0.7551232	4.87396E+13	2.9428486 6.70217E+12		6.2171227	6.2171227
228	5909.98	574990	0.0998095	5/7/19 8:02	0.0276548	0.8281691	4.87396E+13	2.9441289 6.70217E+12		10.5086088	10.5086088
229	5885.9	574991	0.1001084	5/7/19 8:07	0.0276548	0.8281691	4.83962E+13	2.9529431 6.70217E+12	1.0618156	31.7978378	31.7978378
230	5894.01 5901.61	574991 574991	0.1002463 0.1003756	5/7/19 8:12 5/7/19 8:17	0.0276548 0.0276548	0.8281691 0.8281691	4.83962E+13 4.83962E+13	2.9570118 6.70217E+12 2.9608247 6.70217E+12	0.3477068 0.2233212	10.4126596 6.6877255	10.4126596 6.6877255
232	5901.01	574993	0.0990295	5/7/19 8:22	0.0276548	0.8281691	4.9049E+13	2.9211197 6.70217E+12	0.1839307	5.5081114	5.5081114
233	5896.99	574993	0.098962	5/7/19 8:27	0.0276548	0.8281691	4.9049E+13	2.9191298 6.70217E+12	0.2097637	6.2817236	6.2817236
234	5903.12	574994	0.0985656	5/7/19 8:32	0.0276548	0.8281691	4.92975E+13	2.9074343 6.70217E+12	0.0304959	0.9132506	2.9074343
235	5904.99	574994	0.0985968	5/7/19 8:37	0.0276548	0.8281691	4.92975E+13	2.9083554 6.70217E+12		0.6860751	2.9083554
236	5928.02	574994	0.0989813	5/7/19 8:42	0.0276548	0.8281691	4.92975E+13	2.9196982 6.70217E+12		0.696799	2.9196982
237 238	5918.93 5920.48	574994 574994	0.0988295 0.0988554	5/7/19 8:47 5/7/19 8:52	0.0276548 0.0276548	0.8281691 0.8281691	4.92975E+13 4.92975E+13	2.9152212 6.70217E+12 2.9159846 6.70217E+12		0.6014878 0.7327949	2.9152212 2.9159846
239	5927.27	574996	0.1000578		0.0276548	0.8281691	4.8761E+13	2.9514506 6.70217E+12		0.5554927	2.9514506
240	5970.03	574997	0.0973284	5/7/19 9:02	0.0268411	0.8038015	5.049E+13	2.8709404 6.70217E+12		0.5471166	2.8709404
241	5896.92	574997	0.0961365	5/7/19 9:07	0.0268411	0.8038015	5.049E+13	2.8357824 6.70217E+12	0.0189375	0.567115	2.8357824
242	5876.01	574998	0.0954385	5/7/19 9:12	0.0268411	0.8038015	5.06789E+13	2.8151949 6.70217E+12	0.0203296	0.6088038	2.8151949
243	5818.78	574999	0.0935121	5/7/19 9:17	0.0268411	0.8038015	5.12192E+13	2.758369 6.70217E+12		0.5839211	2.758369
244	5836.61	574999 574999	0.0937986		0.0268411	0.8038015 0.8038015	5.12192E+13			0.5698042 0.6037937	2.7668213
245 246	5852.94 5843.39	575000	0.094061 0.0949282	5/7/19 9:27 5/7/19 9:32	0.0268411 0.0268411	0.8038015	5.12192E+13 5.06685E+13			0.5867001	2.7745624 2.8001417
247	5840.9	575000	0.0948878	5/7/19 9:37	0.0268411	0.8038015	5.06685E+13			0.6252804	2.7989485
248	5844.44	575000	0.0949453	5/7/19 9:42	0.0268411	0.8038015	5.06685E+13			0.5975438	2.8006448
249	5831.94	575001	0.0948603	5/7/19 9:47	0.0268411	0.8038015	5.06054E+13			0.5887694	2.7981392
250	5840.78	575003	0.0941941	5/7/19 9:52	0.0268411	0.8038015	5.10406E+13			0.5628895	2.7784869
251	5839.47	575003	0.094173		0.0268411	0.8038015	5.10406E+13			0.563168	2.7778637
252	5836.55	575003	0.0941259		0.0268411	0.8038015	5.10406E+13			0.563168	2.7764747
253 254	5843.59 5851.93	575003 575003	0.0942394	5/7/19 10:03 5/7/19 10:08	0.0287164 0.0287164	0.8599605 0.8599605	5.10406E+13 5.10406E+13	2.7798236 6.70217E+12 2.783791 6.70217E+12		0.6072046 0.5863797	2.7798236 2.783791
255	5840.6	575003		5/7/19 10:08	0.0287164	0.8599605	5.10406E+13			0.6068812	2.7784013
256	5841.73	575003		5/7/19 10:18	0.0287164	0.8599605	5.10406E+13			0.6039344	2.7789388
257	5837.26	575004		5/7/19 10:23	0.0287164	0.8599605	4.97383E+13			0.5886526	2.8495172
258	5843.1	575004		5/7/19 10:28	0.0287164	0.8599605	4.97383E+13	2.852368 6.70217E+12		0.6205399	2.852368
259 260	5843.45	575005 575005		5/7/19 10:35 5/7/19 10:35	0.0287164	0.8599605	4.93814E+13 4.93814E+13			0.6044375	2.8731576 2.8719579
260	5841.01 5844.02	575005 575005		5/7/19 10:35	0.0287164 0.0287164	0.8599605 0.8599605	4.93814E+13 4.93814E+13			0.5931566 0.5994095	2.8719579
262	5844.02	575005		5/7/19 10:42	0.0287164	0.8599605	4.93814E+13			0.5994095	2.8734379
263	5843.32	575005		5/7/19 10:43	0.0287164	0.8599605	4.93814E+13			0.5994095	2.8730937
264	5843.32	575005	0.0974014	5/7/19 10:44	0.0287164	0.8599605	4.93814E+13			0.5994095	2.8730937
265	5843.18	575005		5/7/19 10:45	0.0287164	0.8599605	4.93814E+13			0.6038536	2.8730249
266	5843.18	575005		5/7/19 10:46	0.0287164	0.8599605	4.93814E+13			0.6038536	2.8730249
267 268	5843.81 5855.01	575005 575005		5/7/19 10:48 5/7/19 10:51	0.0287164 0.0287164	0.8599605 0.8599605	4.93814E+13 4.93814E+13			0.6038536 0.6067105	2.8733347 2.8788416
269	5853.18	575005		5/7/19 10:51	0.0287164	0.8599605	4.93814E+13 4.93814E+13			0.6067105	
270	5853.18	575005		5/7/19 10:53	0.0287164	0.8599605	4.93814E+13			0.6067105	2.8779418
271	5854.99	575005		5/7/19 10:58	0.0287164	0.8599605	4.93814E+13			0.6136102	2.8788317
272	5855.01	575005		5/7/19 11:03	0.0273473	0.8189605	4.93814E+13			0.5771322	2.8788416
273	5862.23	575005		5/7/19 11:08	0.0273473	0.8189605	4.93814E+13			0.5543338	2.8823916
274	5868.68	575005		5/7/19 11:13	0.0273473	0.8189605	4.93814E+13	2.885563 6.70217E+12		0.5461943	2.885563
275 276	5877.1 5880.82	575005 575006		5/7/19 11:18 5/7/19 11:23	0.0273473 0.0273473	0.8189605 0.8189605	4.93814E+13 4.74222E+13	2.889703 6.70217E+12 3.0109929 6.70217E+12		0.5255191 0.5133607	2.889703 3.0109929
276	5885.64	575006		5/7/19 11:23	0.0273473	0.8189605	4.76216E+13	3.000843 6.70217E+12		0.4821773	3.0109929
278	5888.81	575007		5/7/19 11:33	0.0273473	0.8189605	4.76216E+13	3.0024592 6.70217E+12		0.5026129	3.0024592
279	5887.01	575007		5/7/19 11:38	0.0273473	0.8189605	4.76216E+13	3.0015415 6.70217E+12		0.5212217	3.0015415
280	5885.87	575009	0.1022383	5/7/19 11:43	0.0273473	0.8189605	4.73877E+13			0.5431696	3.0157712
281	5882.45	575010	0.1025602		0.0273473	0.8189605	4.72115E+13	3.0252654 6.70217E+12		0.5658932	3.0252654
282	5889.31	575010	0.1026798	5/7/19 11:53	0.0273473	0.8189605	4.72115E+13	3.0287934 6.70217E+12	0.0191234	0.5726821	3.0287934

202	A F000 74	B 575011	0.1033466	D F /7/10 11.F9	E 0.0272472	F 0.818060F	G 4.604785+13	H	6 702175 12	J 0.01000F3	K	L 2.0455122
283	5888.74 5894.74	575011 575011		5/7/19 11:58 5/7/19 12:03	0.0273473 0.0270574	0.8189605 0.8102789	4.69478E+13 4.69478E+13	3.0455122 3.0486153	6.70217E+12 6.70217E+12	0.0189953 0.0201972	0.5688459 0.6048388	3.0455122 3.0486153
285	5895.72	575011		5/7/19 12:08	0.0270574	0.8102789	4.69478E+13	3.0491221	6.70217E+12	0.0246114	0.7370294	3.0491221
286	5907.12	575011		5/7/19 12:13	0.0270574	0.8102789	4.69478E+13	3.0550179	6.70217E+12	0.0195085	0.5842145	3.0550179
287	5908.19	575013		5/7/19 12:18	0.0270574	0.8102789	4.67609E+13 4.67609E+13	3.0677806	6.70217E+12	0.0177224	0.5307268	3.0677806
288 289	5895.99 5898.02	575013 575014		5/7/19 12:23 5/7/19 12:27	0.0270574 0.0270574	0.8102789 0.8102789	4.67609E+13 4.65154E+13	3.0614459 3.0786681	6.70217E+12 6.70217E+12	0.0163821 0.0162962	0.4905893 0.4880169	3.0614459 3.0786681
290	5895.6	575014		5/7/19 12:32	0.0270574	0.8102789	4.65154E+13	3.0774049	6.70217E+12	0.0164602	0.4929281	3.0774049
291	5887.34	575016		5/7/19 12:37	0.0270574	0.8102789	4.65141E+13	3.0731761	6.70217E+12	0.0200409	0.6001582	3.0731761
292	5889.4	575016		5/7/19 12:42	0.0270574	0.8102789	4.65141E+13	3.0742514	6.70217E+12	0.0215114	0.6441947	3.0742514
293 294	5893.65 5893.83	575016 575018	0.1042961 0.1033386		0.0270574 0.0270574	0.8102789 0.8102789	4.65141E+13 4.69465E+13	3.0764699 3.0482275	6.70217E+12 6.70217E+12	0.020945 0.0215906	0.6272329 0.6465665	3.0764699 3.0482275
295	5890.09	575018	0.1033380		0.0270574	0.8102789	4.69465E+13	3.0462932	6.70217E+12	0.0199465	0.5973312	3.0462932
296	5887.86	575018	0.1032339		0.0260477	0.7800418	4.69465E+13	3.0451399	6.70217E+12	0.0182097	0.5453198	3.0451399
297	5877.45	575018	0.1030514	-, ,	0.0260477	0.7800418	4.69465E+13	3.0397559	6.70217E+12	0.0171154	0.5125492	3.0397559
298 299	5880.76	575018	0.1031095		0.0260477	0.7800418	4.69465E+13 4.69465E+13	3.0414678	6.70217E+12	0.0158291	0.4740288	3.0414678
300	5885.01 5886.65	575018 575019	0.103184 0.105185	5/7/19 13:17 5/7/19 13:22	0.0260477 0.0260477	0.7800418 0.7800418	4.69465E+13 4.60663E+13	3.0436659 3.10269	6.70217E+12 6.70217E+12	0.0156969 0.0194576	0.4700698 0.5826903	3.0436659 3.10269
301	5886.81	575019	0.1051878		0.0260477	0.7800418	4.60663E+13	3.1027744	6.70217E+12	0.0237637	0.7116436	3.1027744
302	5886.02	575019	0.1051737		0.0260477	0.7800418	4.60663E+13	3.102358	6.70217E+12	0.034183	1.0236669	3.102358
303	5878.86	575019	0.1050458		0.0260477	0.7800418	4.60663E+13	3.0985841	6.70217E+12	0.4823059	14.443454	14.443454
304 305	5879.94 5872.78	575019 575020		5/7/19 13:42 5/7/19 13:47	0.0260477 0.0260477	0.7800418 0.7800418	4.60663E+13 4.57872E+13	3.0991534 3.1142442	6.70217E+12 6.70217E+12	0.1343145 0.0287544	4.0222716 0.8610984	4.0222716 3.1142442
306	5868.57	575020		5/7/19 13:52	0.0260477	0.7800418	4.57872E+13	3.1120117	6.70217E+12	0.0442637	1.3255503	3.1120117
307	5877.6	575020	0.1056633	5/7/19 13:57	0.0260477	0.7800418	4.57872E+13		6.70217E+12	0.0156508	0.4686893	3.1168002
308	5880.3	575021		5/7/19 14:02	0.025584	0.7661555	4.52279E+13	3.156795	6.70217E+12	0.0212368	0.6359714	3.156795
309 310	5873.1 5856.76	575021 575021	0.1068882 0.1065908		0.025584 0.025584	0.7661555 0.7661555	4.52279E+13 4.52279E+13	3.1529297 3.1441577	6.70217E+12 6.70217E+12	0.0135226 0.0161145	0.4049568 0.4825756	3.1529297 3.1441577
311	5835.32	575021		5/7/19 14:12	0.025584	0.7661555	4.52279E+13	3.1326478	6.70217E+12 6.70217E+12	0.0161145	0.6376843	3.1326478
312	5823.7	575021	0.1059891	5/7/19 14:22	0.025584	0.7661555	4.52279E+13	3.1264097	6.70217E+12	0.0232619	0.6966164	3.1264097
313	5823.9	575021	0.1059927	-, , -	0.025584	0.7661555	4.52279E+13	3.1265171	6.70217E+12	0.0186602	0.5588108	3.1265171
314 315	5844.51 5852.73	575021 575022		5/7/19 14:32 5/7/19 14:37	0.025584 0.025584	0.7661555 0.7661555	4.52279E+13 4.41871E+13	3.1375814 3.2160024	6.70217E+12 6.70217E+12	0.0221179 0.0160534	0.6623574 0.4807458	3.1375814 3.2160024
316	5842.59	575022		5/7/19 14:42	0.025584	0.7661555	4.41871E+13	3.2100024	6.70217E+12	0.0130334	0.4167139	3.2100024
317	5844.51	575023	0.1093454	5/7/19 14:47	0.025584	0.7661555	4.39963E+13	3.225412	6.70217E+12	0.0096897	0.2901742	3.225412
318	5842.77	575023		5/7/19 14:52	0.025584	0.7661555	4.39963E+13	3.2244517	6.70217E+12	0.0082441	0.2468833	3.2244517
319 320	5843.27 5849.85	575023 575023	0.1093222 0.1094453	5/7/19 14:57 5/7/19 15:02	0.025584 0.0200751	0.7661555 0.6011823	4.39963E+13 4.39963E+13	3.2247277 3.228359	6.70217E+12 6.70217E+12	0.0080116 0.004172	0.2399207 0.1249375	3.2247277 3.228359
321	5844.11	575023		5/7/19 15:07	0.0200751	0.6011823	4.39963E+13	3.2251913	6.70217E+12	0.0063173	0.1891821	3.2251913
322	5838.69	575023	0.1092365	5/7/19 15:12	0.0200751	0.6011823	4.39963E+13	3.2222001	6.70217E+12	0.0074128	0.2219887	3.2222001
323	5843.57	575023		5/7/19 15:17	0.0200751	0.6011823	4.39963E+13	3.2248932	6.70217E+12	0.0068169	0.2041434	3.2248932
324 325	5844.59 5849.99	575023 575023	0.1093469	5/7/19 15:22 5/7/19 15:27	0.0200751 0.0200751	0.6011823 0.6011823	4.39963E+13 4.39963E+13	3.2254562 3.2284363	6.70217E+12 6.70217E+12	0.0173942 0.0160868	0.5208983 0.481746	3.2254562 3.2284363
326	5849.99	575023		5/7/19 15:32	0.0200751	0.6011823	4.39963E+13	3.2284363	6.70217E+12	0.0179579	0.5377792	3.2284363
327	5862.15	575023	0.1096754	5/7/19 15:37	0.0200751	0.6011823	4.39963E+13	3.235147	6.70217E+12	0.0185996	0.556996	3.235147
328	5861.7	575023	0.109667		0.0200751	0.6011823	4.39963E+13	3.2348987	6.70217E+12	0.0164337	0.4921345	3.2348987
329 330	5871.48 5859.1	575024 575024		5/7/19 15:47 5/7/19 15:52	0.0200751 0.0200751	0.6011823 0.6011823	4.22289E+13 4.22289E+13	3.3759101 3.368792	6.70217E+12 6.70217E+12	0.0172669 0.0085437	0.5170861 0.2558553	3.3759101 3.368792
331	5854.1	575025		5/7/19 15:57	0.0200751	0.6011823	4.21197E+13	3.3746406	6.70217E+12	0.0200752	0.6011853	3.3746406
332	5843.22	575026	0.1144995		0.0216225	0.6475218	4.20066E+13	3.3774456	6.70217E+12	0.0220984	0.6617734	3.3774456
333 334	5853.43 5856.16	575026 575026		5/7/19 16:07 5/7/19 16:12	0.0216225 0.0216225	0.6475218 0.6475218	4.20066E+13 4.20066E+13	3.3833471 3.384925	6.70217E+12 6.70217E+12	0.0156725 0.0214597	0.4693391 0.6426465	3.3833471 3.384925
335	5854.02	575026		5/7/19 16:12	0.0216225	0.6475218	4.20066E+13	3.3836881	6.70217E+12 6.70217E+12	0.0214397	0.7182259	3.3836881
336	5850.81	575026		5/7/19 16:22	0.0216225	0.6475218	4.20066E+13	3.3818327	6.70217E+12	0.0167074	0.5003309	3.3818327
337	5854.62	575027		5/7/19 16:27	0.0216225	0.6475218	4.14207E+13		6.70217E+12	0.0156102	0.4674735	3.4318944
338	5855.8 5856.74	575028 575029		5/7/19 16:32 5/7/19 16:37	0.0216225 0.0216225	0.6475218 0.6475218	4.16435E+13 4.21846E+13		6.70217E+12 6.70217E+12	0.0163249 0.0175314	0.4888763 0.525007	3.4142287 3.3709755
340	5868.02	575029		5/7/19 16:42	0.0216225	0.6475218	4.21846E+13		6.70217E+12	0.0173314	0.4524881	
341	5872.51	575029		5/7/19 16:47	0.0216225	0.6475218	4.21846E+13		6.70217E+12	0.0146534	0.4388205	3.3800522
342	5871.99	575029		5/7/19 16:52	0.0216225	0.6475218	4.21846E+13		6.70217E+12	0.0175759	0.5263396	3.3797529
343 344	5880.77 5886.53	575029 575029		5/7/19 16:57 5/7/19 17:02	0.0216225 0.0204922	0.6475218 0.6136731	4.21846E+13 4.21846E+13	3.3848064 3.3881217	6.70217E+12 6.70217E+12	0.0063504 0.0061338	0.1901733 0.1836869	3.3848064 3.3881217
345	5889.98	575029		5/7/19 17:02	0.0204922	0.6136731	4.21846E+13		6.70217E+12 6.70217E+12	0.0028472	0.0852641	3.3901075
346	5885.6	575031	0.1147437	5/7/19 17:12	0.0204922	0.6136731	4.22212E+13	3.3846492	6.70217E+12	0.0111196	0.332995	3.3846492
347	5883.88	575032		5/7/19 17:17	0.0204922	0.6136731	4.23148E+13	3.3761744	6.70217E+12	0.0197231	0.5906411	3.3761744
348 349	5871.02 5872.05	575033 575033		5/7/19 17:22 5/7/19 17:27	0.0204922 0.0204922	0.6136731 0.6136731	4.23698E+13 4.23698E+13	3.364421 3.3650113	6.70217E+12 6.70217E+12	0.013771 0.0099314	0.4123955 0.2974123	3.364421 3.3650113
350	5878.77	575034		5/7/19 17:32	0.0204922	0.6136731	4.21856E+13		6.70217E+12	0.0033314	0.4051994	3.3835727
351	5877.4	575034	0.1146805	5/7/19 17:37	0.0204922	0.6136731	4.21856E+13	3.3827841	6.70217E+12	0.0143791	0.4306061	3.3827841
352	5880.39	575034		5/7/19 17:42	0.0204922	0.6136731	4.21856E+13		6.70217E+12	0.0171643	0.5140136	3.3845051
353 354	5871.98 5878.4	575034 575035		5/7/19 17:47 5/7/19 17:52	0.0204922 0.0204922	0.6136731 0.6136731	4.21856E+13 4.18797E+13		6.70217E+12 6.70217E+12	0.0179472 0.0182428	0.5374588 0.5463111	3.3796646 3.4080684
355	5886.62	575035		5/7/19 17:57	0.0204922	0.6136731	4.18797E+13		6.70217E+12	0.0182428	0.8406568	3.4128341
356	5896.23	575036		5/7/19 18:02	0.0194272	0.5817799	4.33372E+13		6.70217E+12	0.4423178	13.2459437	
357 358	5898.4 5899.98	575036 575036		5/7/19 18:08 5/7/19 18:13	0.0194272 0.0194272	0.5817799 0.5817799	4.33372E+13 4.33372E+13	3.304655 3.3055402	6.70217E+12 6.70217E+12	0.19554 0.0183816	5.8557712 0.5504676	5.8557712 3.3055402
358	5899.98	575036		5/7/19 18:13	0.0194272	0.5817799	4.33372E+13 4.34075E+13	3.3055402	6.70217E+12 6.70217E+12	0.0183816	0.3738512	3.3055402
360	5901.99	575039		5/7/19 18:23	0.0194272	0.5817799	4.46549E+13		6.70217E+12	0.0063404	0.1898738	3.2090942
361	5898.01	575040		5/7/19 18:28	0.0194272	0.5817799	4.48497E+13		6.70217E+12	0.0069752	0.208884	3.1930006
362 363	5899.19 5858.01	575041 575041		5/7/19 18:33 5/7/19 18:38	0.0194272 0.0194272	0.5817799 0.5817799	4.53937E+13 4.53937E+13		6.70217E+12 6.70217E+12	0.0117867 0.0008215	0.3529724 0.0246012	3.1553672 3.1333408
364	5832.84	575041		5/7/19 18:38	0.0194272	0.5817799	4.53937E+13 4.53937E+13		6.70217E+12 6.70217E+12	0.0008215	0.0246012	3.1333408
365	5825.57	575042	0.1062064	5/7/19 18:48	0.0194272	0.5817799	4.51499E+13	3.1328187	6.70217E+12	0.0131193	0.3928793	3.1328187
366	5730.23	575042		5/7/19 18:53	0.0194272	0.5817799	4.51499E+13		6.70217E+12	0.0147234	0.4409168	3.0815477
367 368	5765.61 5698.35	575042 575042		5/7/19 18:58 5/7/19 19:03	0.0194272 0.0208363	0.5817799 0.6239777	4.51499E+13 4.51499E+13	3.100574 3.0644036	6.70217E+12 6.70217E+12	0.015851 0.0143949	0.4746846 0.4310793	3.100574 3.0644036
369	5728.93	575042		5/7/19 19:08	0.0208363	0.6239777	4.50844E+13		6.70217E+12	0.0143949	0.2559033	3.0853184
370	5726.34	575044	0.1042417	5/7/19 19:13	0.0208363	0.6239777	4.52172E+13	3.0748672	6.70217E+12	0.0131066	0.392499	3.0748672
371	5721.68	575044		5/7/19 19:18	0.0208363	0.6239777	4.52172E+13	3.072365	6.70217E+12	0.0074483	0.2230518	3.072365
372 373	5740.89 5739.97	575044 575047		5/7/19 19:23 5/7/19 19:28	0.0208363 0.0208363	0.6239777 0.6239777	4.52172E+13 4.55277E+13	3.0826801 3.0611659	6.70217E+12 6.70217E+12	0.0220669 0.0206216	0.6608301 0.6175482	3.0826801 3.0611659
374	5762.15	575047		5/7/19 19:33	0.0208363	0.6239777	4.55277E+13	3.0729946	6.70217E+12	0.0227412	0.6810231	3.0729946
375	5772.32	575048	0.1046881	5/7/19 19:38	0.0208363	0.6239777	4.5386E+13	3.0880343	6.70217E+12	0.0213669	0.6398674	3.0880343
376	5757.52	575048	0.1044197	5/7/19 19:43	0.0208363	0.6239777	4.5386E+13	3.0801167	6.70217E+12	0.0192512	0.5765093	3.0801167

2.5	A	B	C 1049413	D	E 0.0000262	F 0.5220777	G	H	6 702477	J	K	L
377 378	5780.76 5772.27	575048 575049	0.1048412 0.1062044		0.0208363 0.0208363	0.6239777 0.6239777	4.5386E+13 4.47376E+13	3.0925494 3.1327595	6.70217E+12 6.70217E+12	0.0184615 0.0170593	0.5528604 0.5108692	3.0925494 3.1327595
379	5763.53	575049	0.1060435	5/7/19 19:58	0.0208363	0.6239777	4.47376E+13	3.128016	6.70217E+12	0.0193825	0.5804413	3.128016
380	5774.99	575049	0.1062544	5/7/19 20:03	0.0214057	0.6410294	4.47376E+13	3.1342357	6.70217E+12	0.0225229	0.6744858	3.1342357
381	5785.64	575050	0.1067275	5/7/19 20:08	0.0214057	0.6410294	4.46214E+13	3.1481898	6.70217E+12	0.0200782	0.6012752	3.1481898
382 383	5794.65 5794.99	575051 575052	0.1065264 0.105856	5/7/19 20:13 5/7/19 20:18	0.0214057 0.0214057	0.6410294 0.6410294	4.47753E+13 4.50615E+13	3.1422582 3.1224836	6.70217E+12 6.70217E+12	0.0189119 0.0168789	0.5663484 0.5054668	3.1422582 3.1224836
384	5777.32	575052	0.1055332	5/7/19 20:23	0.0214057	0.6410294	4.50615E+13	3.1129625	6.70217E+12	0.0188787	0.5653541	3.1129625
385	5779.44	575052	0.1055719	5/7/19 20:28	0.0214057	0.6410294	4.50615E+13	3.1141049	6.70217E+12	0.0185028	0.5540972	3.1141049
386	5784.49	575053	0.1069047	5/7/19 20:33	0.0214057	0.6410294	4.45386E+13		6.70217E+12	0.0168679	0.5051374	3.1534189
387 388	5792.26 5794.99	575054 575055	0.1071284 0.1078127	5/7/19 20:38 5/7/19 20:43	0.0214057 0.0214057	0.6410294 0.6410294	4.45053E+13 4.42437E+13	3.1600161 3.1802017	6.70217E+12 6.70217E+12	0.0100913 0.0159387	0.3022008 0.4773109	3.1600161 3.1802017
389	5798.99	575056	0.1065136	5/7/19 20:48	0.0214057	0.6410294	4.48142E+13	3.1418807	6.70217E+12	0.0155694	0.4662516	3.1418807
390	5799.99	575056	0.1065319		0.0214057	0.6410294	4.48142E+13	3.1424225	6.70217E+12	0.0120816	0.3618036	3.1424225
391	5792.47	575056	0.1063938	5/7/19 20:58	0.0214057	0.6410294	4.48142E+13	3.1383482	6.70217E+12	0.0121052	0.3625104	3.1383482
392	5783.99	575057 575060	0.1071229	5/7/19 21:03	0.0187353	0.5610598 0.5610598	4.4444E+13	3.1598544	6.70217E+12	0.0062082	0.1859149	3.1598544
393 394	5798.01 5804.99	575060	0.1064196 0.1065477	5/7/19 21:08 5/7/19 21:13	0.0187353 0.0187353	0.5610598	4.48462E+13 4.48462E+13	3.1391083 3.1428873	6.70217E+12 6.70217E+12	0.0101617 0.0147359	0.304309 0.4412911	3.1391083 3.1428873
395	5804.47	575060	0.1065382	5/7/19 21:18	0.0187353	0.5610598	4.48462E+13	3.1426058	6.70217E+12	0.0161425	0.4834141	3.1426058
396	5797.19	575061	0.1077196	5/7/19 21:23	0.0187353	0.5610598	4.42987E+13	3.1774565	6.70217E+12	0.0166747	0.4993517	3.1774565
397	5796.01	575062	0.1073179	5/7/19 21:28	0.0187353	0.5610598	4.44555E+13	3.1656063	6.70217E+12	0.0162576	0.4868609	3.1656063
398 399	5796.91 5804.49	575062 575063	0.1073346 0.1082426	5/7/19 21:33 5/7/19 21:38	0.0187353 0.0187353	0.5610598 0.5610598	4.44555E+13 4.41402E+13	3.1660978 3.1928815	6.70217E+12 6.70217E+12	0.0154972 0.0140195	0.4640895 0.4198373	3.1660978 3.1928815
400	5807.51	575063	0.1082989		0.0187353	0.5610598	4.41402E+13	3.1945427	6.70217E+12	0.0138085	0.4135185	3.1945427
401	5806.56	575064	0.107581	5/7/19 21:48	0.0187353	0.5610598	4.44275E+13	3.1733683	6.70217E+12	0.0123646	0.3702786	3.1733683
402	5797.78	575064	0.1074184		0.0187353	0.5610598	4.44275E+13	3.1685699	6.70217E+12	0.0135325	0.4052533	3.1685699
403 404	5793.65 5778.02	575064 575065	0.1073419 0.1070536	5/7/19 21:58 5/7/19 22:03	0.0187353 0.0092857	0.5610598 0.2780758	4.44275E+13 4.44269E+13	3.1663128 3.1578114	6.70217E+12 6.70217E+12	0.0143717 0.0159167	0.4303845 0.4766521	3.1663128 3.1578114
404	5773.43	575066	0.1070536	-, , -	0.0092857	0.2780758	4.51693E+13		6.70217E+12 6.70217E+12	0.0153167	0.4589417	3.1034402
406	5779.39	575067	0.1054664	5/7/19 22:13	0.0092857	0.2780758	4.51062E+13	3.1109906	6.70217E+12	0.0139439	0.4175733	3.1109906
407	5791.59	575067	0.105689	5/7/19 22:18	0.0092857	0.2780758	4.51062E+13	3.1175577	6.70217E+12	0.0131096	0.3925888	3.1175577
408 409	5790.02 5782.94	575067 575067	0.1056603 0.1055311	5/7/19 22:23 5/7/19 22:28	0.0092857 0.0092857	0.2780758 0.2780758	4.51062E+13 4.51062E+13	3.1167126 3.1129015	6.70217E+12 6.70217E+12	0.0122573 0.0136306	0.3670653 0.408191	3.1167126 3.1129015
410	5775.43	575067	0.1053941	5/7/19 22:33	0.0092857	0.2780758	4.51062E+13	3.1088589	6.70217E+12	0.0135365	0.404834	3.1123013
411	5779.99	575068	0.1067775	5/7/19 22:38	0.0092857	0.2780758	4.4557E+13	3.1496656	6.70217E+12	0.0130395	0.3904896	3.1496656
412	5785.55	575068	0.1068802	5/7/19 22:43	0.0092857	0.2780758	4.4557E+13	3.1526954	6.70217E+12	0.0132167	0.3957961	3.1526954
413 414	5776.9 5782.35	575070 575070	0.1064823 0.1065827	5/7/19 22:48 5/7/19 22:53	0.0092857 0.0092857	0.2780758 0.2780758	4.46566E+13 4.46566E+13	3.1409571 3.1439203	6.70217E+12 6.70217E+12	0.0151927 0.0127496	0.4549707 0.381808	3.1409571 3.1439203
415	5778.56	575070	0.1065129		0.0092857	0.2780758	4.46566E+13	3.1418596	6.70217E+12	0.01094	0.3276165	3.1418596
416	5807.88	575077	0.1057164	5/8/19 0:03	0.010744	0.321747	4.52214E+13	3.1183659	6.70217E+12	0.0116913	0.3501155	3.1183659
417	5804.11 5801.23	575077 575078	0.1056478	5/8/19 0:08	0.010744 0.010744	0.321747	4.52214E+13	3.1163417	6.70217E+12	0.0120928	0.3621391	3.1163417 3.1213604
418 419	5791.66	575078	0.1058179 0.1056434	5/8/19 0:13 5/8/19 0:18	0.010744	0.321747 0.321747	4.51263E+13 4.51263E+13	3.1213604 3.1162113	6.70217E+12 6.70217E+12	0.0121536 0.0124538	0.3639598 0.3729498	3.1162113
420	5795.5	575078	0.1057134	5/8/19 0:23	0.010744	0.321747	4.51263E+13	3.1182774	6.70217E+12	0.0132227	0.3959758	3.1182774
421	5795.98	575079	0.1065412	5/8/19 0:28	0.010744	0.321747	4.47794E+13	3.1426942	6.70217E+12	0.0133711	0.4004199	3.1426942
422 423	5799.99 5804.41	575081 575082	0.102499 0.1023697	5/8/19 0:33 5/8/19 0:38	0.010744 0.010744	0.321747	4.65775E+13 4.66719E+13	3.0234621	6.70217E+12	0.0173409 0.0172819	0.5193022 0.5175353	3.0234621 3.0196463
423	5804.41	575082	0.1023697	5/8/19 0:38	0.010744	0.321747 0.321747	4.66719E+13 4.70463E+13	3.0196463 2.9958274	6.70217E+12 6.70217E+12	0.0172819	0.5175353	2.9958274
425	5802.49	575086	0.0989662	5/8/19 0:48	0.010744	0.321747	4.82609E+13	2.9192535	6.70217E+12	0.0173835	0.5205779	2.9192535
426	5795.31	575086	0.0988438	5/8/19 0:53	0.010744	0.321747	4.82609E+13	2.9156412	6.70217E+12	0.0147548	0.4418571	2.9156412
427 428	5799.55 5810.52	575087 575087	0.0990391 0.0992264	5/8/19 0:58 5/8/19 1:03	0.010744 0.0116366	0.321747 0.3484774	4.8201E+13 4.8201E+13	2.9214025 2.9269284	6.70217E+12 6.70217E+12	0.0135535 0.0126685	0.4058821 0.3793793	2.9214025 2.9269284
429	5818.01	575087	0.0993543	5/8/19 1:08	0.0116366	0.3484774	4.8201E+13	2.9307013	6.70217E+12	0.0083531	0.2501475	2.9307013
430	5819.24	575089	0.0985572	5/8/19 1:13	0.0116366	0.3484774	4.86011E+13	2.9071881	6.70217E+12	0.0126493	0.3788044	2.9071881
431 432	5817.19 5820.91	575090 575090	0.0973429 0.0974051	5/8/19 1:18 5/8/19 1:23	0.0116366 0.0116366	0.3484774 0.3484774	4.91901E+13 4.91901E+13	2.8713676	6.70217E+12 6.70217E+12	0.0126278 0.0125071	0.3781605 0.374546	2.8713676 2.8732038
432	5831.99	575090	0.0975905		0.0116366	0.3484774			6.70217E+12	0.0125071	0.3747735	
434	5837.72	575090	0.0976864		0.0116366	0.3484774	4.91901E+13	2.8815012	6.70217E+12	0.0030723	0.0920051	2.8815012
435	5825.57	575090	0.0974831	5/8/19 1:38	0.0116366	0.3484774	4.91901E+13	2.875504	6.70217E+12	0.0007008	0.0209866	2.875504
436 437	5834.9 5839.94	575090 575090	0.0976392 0.0977235	5/8/19 1:43 5/8/19 1:49	0.0116366 0.0116366	0.3484774 0.3484774	4.91901E+13 4.91901E+13	2.8801093 2.882597	6.70217E+12 6.70217E+12	0.002842 0.0029206	0.0851084 0.0874622	2.8801093 2.882597
438	5834.68	575090	0.0976355	5/8/19 1:54	0.0116366	0.3484774	4.91901E+13	2.8800007	6.70217E+12	0.0023200	0.1116202	2.8800007
439	5827.66	575090	0.0975181	5/8/19 1:59	0.0116366	0.3484774	4.91901E+13		6.70217E+12	0.0045235	0.1354637	2.8765356
440 441	5833.57	575090	0.097617	5/8/19 2:04 5/8/19 2:09	0.0119665	0.3583568 0.3583568	4.91901E+13		6.70217E+12	0.005794	0.173511	2.8794528
441	5837.02 5834.82	575090 575091	0.0976747 0.1021121	5/8/19 2:09	0.0119665 0.0119665	0.3583568	4.91901E+13 4.70347E+13	2.8811557 3.0120484	6.70217E+12 6.70217E+12	0.0120927 0.0138694	0.3621361 0.4153423	2.8811557 3.0120484
443	5832.01	575091	0.1020629	5/8/19 2:19	0.0119665	0.3583568	4.70347E+13	3.0105978	6.70217E+12	0.0243003	0.727713	3.0105978
444	5827.28	575091	0.1019802	5/8/19 2:24	0.0119665	0.3583568	4.70347E+13		6.70217E+12	0.0146496	0.4387067	3.0081561
445 446	5814.3 5822.06	575091 575092	0.101753 0.1015212	5/8/19 2:29 5/8/19 2:34	0.0119665 0.0119665	0.3583568 0.3583568	4.70347E+13 4.72051E+13	3.0014556 2.9946169	6.70217E+12 6.70217E+12	0.013417 0.013794	0.4017944 0.4130843	3.0014556 2.9946169
447	5827.69	575092	0.1013212	5/8/19 2:39	0.0119665	0.3583568	4.72051E+13	2.9975127	6.70217E+12	0.013734	0.402013	2.9975127
448	5825.01	575094	0.1011451	5/8/19 2:44	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0173396	0.5192632	2.9835236
449	5825.01	575094	0.1011451	5/8/19 2:49	0.0119665	0.3583568	4.74046E+13	2.9835236	6.70217E+12	0.0160878	0.481776	2.9835236
450 451	5827.65 5828.98	575094 575094	0.1011909 0.101214	5/8/19 2:54 5/8/19 2:59	0.0119665 0.0119665	0.3583568 0.3583568	4.74046E+13 4.74046E+13	2.9848758 2.985557	6.70217E+12 6.70217E+12	0.0135423 0.0119787	0.4055467 0.3587221	2.9848758 2.985557
452	5816.75	575095	0.1023933	5/8/19 3:04	0.0120924	0.3621271	4.67603E+13	3.020342	6.70217E+12	0.007941	0.2378065	3.020342
453	5816.32	575095	0.1023857	5/8/19 3:09	0.0120924	0.3621271	4.67603E+13	3.0201187	6.70217E+12	0.011828	0.3542092	3.0201187
454	5822.73	575095 575095	0.1024985	5/8/19 3:14	0.0120924 0.0120924	0.3621271 0.3621271	4.67603E+13	3.0234471	6.70217E+12	0.0145702	0.4363289 0.4571508	3.0234471 3.0263913
455 456	5828.4 5829.18	575095 575097	0.1025983 0.1038705	5/8/19 3:19 5/8/19 3:24	0.0120924	0.3621271	4.67603E+13 4.61938E+13		6.70217E+12 6.70217E+12	0.0152655 0.0169161	0.4571508	3.0263913
457	5837.98	575097	0.1040273	5/8/19 3:29	0.0120924	0.3621271	4.61938E+13		6.70217E+12	0.0230203	0.6893813	3.0685432
458	5838.98	575098	0.1040229	5/8/19 3:34	0.0120924	0.3621271	4.62037E+13		6.70217E+12	0.0845618	2.532344	3.0684122
459 460	5828.52 5822.59	575098 575099	0.1038366 0.1046272	5/8/19 3:39 5/8/19 3:44	0.0120924 0.0120924	0.3621271 0.3621271	4.62037E+13 4.58079E+13		6.70217E+12 6.70217E+12	0.0234107 0.0168116	0.7010724 0.5034514	3.0629154 3.0862378
461	5822.59	575099	0.1046272	5/8/19 3:44	0.0120924	0.3621271	4.58079E+13 4.58079E+13		6.70217E+12 6.70217E+12	0.0140409	0.4204782	3.0862378
462	5796.56	575099	0.1041595	5/8/19 3:54	0.0120924	0.3621271	4.58079E+13	3.0724407	6.70217E+12	0.0144936	0.434035	3.0724407
463	5807.05	575101	0.1050426	5/8/19 3:59	0.0120924	0.3621271	4.55049E+13		6.70217E+12	0.0119057	0.356536	3.0984912
464 465	5809.78 5812.68	575101 575101	0.105092 0.1051445	5/8/19 4:04 5/8/19 4:09	0.0137229 0.0137229	0.4109551 0.4109551	4.55049E+13 4.55049E+13	3.0999478 3.1014952	6.70217E+12 6.70217E+12	0.0125622 0.0142995	0.376196 0.4282224	3.0999478 3.1014952
466	5812.68	575101 575102	0.1051445	5/8/19 4:09 5/8/19 4:14	0.0137229	0.4109551	4.55049E+13 4.5642E+13	3.1014952	6.70217E+12 6.70217E+12	0.0142995	0.4282224	3.1014952
467	5808.55	575103	0.1046033	5/8/19 4:19	0.0137229	0.4109551	4.57078E+13	3.0855325	6.70217E+12	0.0200764	0.6012213	3.0855325
468	5820.01	575104	0.1050843	5/8/19 4:24	0.0137229	0.4109551	4.55884E+13	3.09972	6.70217E+12	0.0189938	0.568801	3.09972
469 470	5816.06 5808.82	575105 575106	0.1052763 0.1053792	5/8/19 4:29 5/8/19 4:34	0.0137229 0.0137229	0.4109551 0.4109551	4.54744E+13 4.53734E+13		6.70217E+12 6.70217E+12	0.0230152 0.0197229	0.6892285 0.5906351	3.1053836 3.1084182
4/0	J000.82	2/2100	0.1055/92	J/0/13 4.34	0.013/229	0.4109351	4.J3/34E+13	J.100410Z	0.702175+12	0.013/229	1650086.0	3.1004102

471	A F01F 21	B 575100	C 0.105.4060	D 5/8/19 4:39	E 0.0127220	F 0 4100FF1	G 4 527245+12	H	6 702175 : 12	J 0.010410F	K	L 2.1110011
471 472	5815.31 5818.61	575106 575108	0.1054969 0.1056718	5/8/19 4:39	0.0137229 0.0137229	0.4109551 0.4109551	4.53734E+13 4.5324E+13	3.1118911 3.1170516	6.70217E+12 6.70217E+12	0.0184185 0.0141625	0.5515727 0.4241197	3.1118911 3.1170516
473	5810.51	575108	0.1055247		0.0137229	0.4109551	4.5324E+13	3.1127124	6.70217E+12	0.0159072	0.4763676	3.1127124
474	5815.11	575108	0.1056083	5/8/19 4:54	0.0137229	0.4109551	4.5324E+13	3.1151766	6.70217E+12	0.0160139	0.4795629	3.1151766
475	5808.22	575109	0.1054956 0.1057288	5/8/19 4:59	0.0137229	0.4109551	4.53187E+13	3.1118531	6.70217E+12 6.70217E+12	0.0129169	0.3868181	3.1118531
476 477	5821.06 5830.24	575109 575109	0.1057288	5/8/19 5:04 5/8/19 5:09	0.0172785 0.0172785	0.5174335 0.5174335	4.53187E+13 4.53187E+13	3.1187323 3.1236507	6.70217E+12 6.70217E+12	0.0087613 0.0125147	0.2623717 0.3747735	3.1187323 3.1236507
478	5816.12	575110	0.1063653	5/8/19 5:14	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0158514	0.4746966	3.1375074
479	5816.12	575110	0.1063653	5/8/19 5:19	0.0172785	0.5174335	4.50092E+13	3.1375074	6.70217E+12	0.0145818	0.4366763	3.1375074
480	5811.28	575111	0.1058572		0.0172785	0.5174335	4.51877E+13		6.70217E+12	0.0159657	0.4781195	3.1225197
481 482	5814.19 5822.89	575113 575113	0.1054793 0.1056372	5/8/19 5:29 5/8/19 5:34	0.0172785 0.0172785	0.5174335 0.5174335	4.53722E+13 4.53722E+13	3.1113735 3.1160292	6.70217E+12 6.70217E+12	0.0189354 0.0168377	0.5670521 0.504233	3.1113735 3.1160292
483	5825.6	575113	0.1056863	5/8/19 5:39	0.0172785	0.5174335	4.53722E+13	3.1174794	6.70217E+12	0.0108377	0.4273659	3.1174794
484	5825.47	575114	0.1057728	5/8/19 5:44	0.0172785	0.5174335	4.53341E+13		6.70217E+12	0.0162737	0.4873431	3.1200304
485	5830.59	575114	0.1058658	5/8/19 5:49	0.0172785	0.5174335	4.53341E+13	3.1227726	6.70217E+12	0.016296	0.4880109	3.1227726
486	5839.34	575114	0.1060247	5/8/19 5:54	0.0172785	0.5174335	4.53341E+13	3.127459	6.70217E+12 6.70217E+12	0.0078999	0.2365757	3.127459
487 488	5838.51 5829.09	575115 575117	0.1055129 0.1054774	5/8/19 5:59 5/8/19 6:04	0.0172785 0.0211899	0.5174335 0.6345669	4.55475E+13 4.54893E+13	3.1123637 3.1113164	6.70217E+12 6.70217E+12	0.0157437 0.015334	0.4714713 0.4592022	3.1123637 3.1113164
489	5826.85	575117	0.1054369	5/8/19 6:09	0.0211899	0.6345669	4.54893E+13	3.1101208	6.70217E+12	0.0095667	0.2864908	3.1101208
490	5838.53	575118	0.105587	5/8/19 6:14	0.0211899	0.6345669	4.55157E+13	3.1145494	6.70217E+12	0.0126575	0.3790499	3.1145494
491	5843.74	575119	0.1054459	5/8/19 6:19	0.0211899	0.6345669	4.56173E+13	3.1103869	6.70217E+12	0.0159603	0.4779578	3.1103869
492 493	5843.03 5842.51	575119 575119	0.1054331 0.1054237	5/8/19 6:24 5/8/19 6:29	0.0211899 0.0211899	0.6345669	4.56173E+13 4.56173E+13	3.110009 3.1097323	6.70217E+12 6.70217E+12	0.0169939 0.0176305	0.5089107 0.5279747	3.110009 3.1097323
493	5859.77	575119	0.1054237	5/8/19 6:29	0.0211899	0.6345669 0.6345669	4.56173E+13 4.56903E+13	3.109/323	6.70217E+12 6.70217E+12	0.0176305	0.5453528	3.109/323
495	5849.16	575120	0.1053751	5/8/19 6:39	0.0211899	0.6345669	4.56903E+13		6.70217E+12	0.0222873	0.6674303	3.1082971
496	5859.91	575120	0.1055687	5/8/19 6:44	0.0211899	0.6345669	4.56903E+13		6.70217E+12	0.0240313	0.7196573	3.1140097
497	5874.94	575120	0.1058395	5/8/19 6:49	0.0211899	0.6345669	4.56903E+13	3.1219968	6.70217E+12	0.0247785	0.7420335	3.1219968
498 499	5849.77 5847.52	575122 575123	0.1058251 0.1059851	5/8/19 6:54 5/8/19 6:59	0.0211899 0.0211899	0.6345669 0.6345669	4.55007E+13 4.54146E+13	3.1215733 3.1262913	6.70217E+12 6.70217E+12	0.035146 0.0331317	1.0525055 0.992184	3.1215733 3.1262913
500	5858.74	575123	0.1059851	5/8/19 7:04	0.0211899	0.7365952	4.54146E+13	3.1322899	6.70217E+12 6.70217E+12	0.0331317	0.6755489	3.1322899
501	5868.24	575124	0.1046351	5/8/19 7:09	0.0245969	0.7365952	4.61635E+13	3.0864695	6.70217E+12	0.0227738	0.6819994	3.0864695
502	5860.28	575124	0.1044931	5/8/19 7:14	0.0245969	0.7365952	4.61635E+13	3.0822829	6.70217E+12	0.0189208	0.5666149	3.0822829
503 504	5864.03 5860.24	575124 575125	0.10456 0.1049602	5/8/19 7:19 5/8/19 7:24	0.0245969 0.0245969	0.7365952 0.7365952	4.61635E+13 4.59578E+13	3.0842552 3.0960609	6.70217E+12 6.70217E+12	0.0206953 0.0230157	0.6197553 0.6892435	3.0842552 3.0960609
504	5855.35	575125	0.1049602	5/8/19 7:24	0.0245969	0.7365952	4.59578E+13 4.59578E+13	3.0960609	6.70217E+12 6.70217E+12	0.0230157	0.6892435	3.0960609
506	5861.24	575125	0.1049781	5/8/19 7:34	0.0245969	0.7365952	4.59578E+13	3.0965892	6.70217E+12	0.0205788	0.6162665	3.0965892
507	5864.22	575125	0.1050315	5/8/19 7:39	0.0245969	0.7365952	4.59578E+13	3.0981636	6.70217E+12	0.0197214	0.5905902	3.0981636
508 509	5855.4 5848.68	575125 575126	0.1048735 0.102448	5/8/19 7:44 5/8/19 7:49	0.0245969 0.0245969	0.7365952 0.7365952	4.59578E+13 4.69919E+13	3.0935039 3.0219576	6.70217E+12 6.70217E+12	0.0198359 0.0296779	0.5940191 0.8887542	3.0935039 3.0219576
510	5843.55	575127	0.102448	5/8/19 7:54	0.0245969	0.7365952	4.69382E+13	3.0227572	6.70217E+12	0.0298779	0.6235585	3.0227572
511	5851.77	575127	0.1026193		0.0245969	0.7365952	4.69382E+13	3.0270092	6.70217E+12	0.0230156	0.6892405	3.0270092
512	5849.49	575127	0.1025793	5/8/19 8:04	0.0242095	0.7249938	4.69382E+13	3.0258298	6.70217E+12	0.0232039	0.6948795	3.0258298
513 514	5849.48 5848.2	575129 575130	0.1024537	5/8/19 8:09	0.0242095 0.0242095	0.7249938	4.69957E+13	3.0221242 3.0185855	6.70217E+12 6.70217E+12	0.0199092 0.0193885	0.5962142 0.5806209	3.0221242 3.0185855
515	5833.78	575131	0.1023337 0.1018159	5/8/19 8:14 5/8/19 8:19	0.0242095	0.7249938 0.7249938	4.70405E+13 4.71632E+13	3.0033105	6.70217E+12 6.70217E+12	0.0193883	0.6847066	3.0033105
516	5845.68	575131	0.1020236	5/8/19 8:24	0.0242095	0.7249938	4.71632E+13	3.0094368	6.70217E+12	0.0197323	0.5909166	3.0094368
517	5850.11	575133	0.101054	5/8/19 8:29	0.0242095	0.7249938	4.76518E+13	2.9808362	6.70217E+12	0.0210194	0.629461	2.9808362
518	5849.94	575134	0.101143	5/8/19 8:34	0.0242095	0.7249938	4.76084E+13	2.9834634	6.70217E+12	0.0253845	0.7601812	2.9834634
519 520	5844.18 5844.99	575135 575136	0.1003625 0.1007176	5/8/19 8:39 5/8/19 8:45	0.0242095 0.0242095	0.7249938 0.7249938	4.79315E+13 4.77691E+13	2.9604385 2.9709144	6.70217E+12 6.70217E+12	0.0187378 0.0201853	0.5611347 0.6044825	2.9604385 2.9709144
521	5856.45	575136	0.1009151	5/8/19 8:50	0.0242095	0.7249938	4.77691E+13	2.9767393	6.70217E+12	0.0212258	0.635642	2.9767393
522	5861.07	575136	0.1009947	5/8/19 8:55	0.0242095	0.7249938	4.77691E+13		6.70217E+12	0.0203371	0.6090284	2.9790876
523 524	5859.02 5865.61	575136 575136	0.1009594 0.1010729	5/8/19 9:00 5/8/19 9:05	0.0244939 0.0244939	0.7335107 0.7335107	4.77691E+13 4.77691E+13	2.9780456 2.9813952	6.70217E+12 6.70217E+12	0.0193291 0.0272511	0.5788421 0.8160796	2.9780456 2.9813952
525	5854.26	575136	0.1010723	5/8/19 9:10	0.0244939	0.7335107	4.77691E+13	2.9756262	6.70217E+12	0.0236817	0.709188	2.9756262
526	5831.3	575137	0.1018101		0.0244939	0.7335107	4.71458E+13		6.70217E+12	0.2149698	6.4376289	6.4376289
527	5839.16	575137	0.1019473		0.0244939	0.7335107	4.71458E+13		6.70217E+12		6.4364101	
528 529	5843.2 5841.15	575137 575137	0.1020179 0.1019821	5/8/19 9:25 5/8/19 9:30	0.0244939 0.0244939	0.7335107 0.7335107	4.71458E+13 4.71458E+13		6.70217E+12 6.70217E+12	0.0275293 0.0429576	0.8244108 1.2864369	3.0092689 3.0082132
530	5849.05	575139	0.1013821		0.0244939	0.7335107	4.71438E+13 4.7577E+13		6.70217E+12	0.0232529	0.6963468	2.9849829
531	5857.36	575140	0.0999202	5/8/19 9:40	0.0244939	0.7335107	4.82522E+13	2.947394	6.70217E+12	0.0229391	0.6869496	2.947394
532	5857.91	575140	0.0999296		0.0244939	0.7335107	4.82522E+13	2.9476708	6.70217E+12	0.0235124	0.704118	2.9476708
533 534	5864.03 5868.53	575140 575142	0.100034 0.0972217	5/8/19 9:50 5/8/19 9:55	0.0244939 0.0244939	0.7335107 0.7335107	4.82522E+13 4.96861E+13		6.70217E+12 6.70217E+12	0.0259313 0.0202099	0.776556 0.6052191	2.9507504 2.8677931
534	5857.64	575142	0.0972217		0.0244939	0.7335107	4.96861E+13 4.99946E+13	2.8448083	6.70217E+12 6.70217E+12	0.0202099	0.5634765	2.8677931
536	5866.7	575143	0.0965916	5/8/19 10:05	0.0273545	0.8191761	4.99946E+13	2.8492083	6.70217E+12	0.0166105	0.4974291	2.8492083
537	5863.82	575143		5/8/19 10:10	0.0273545	0.8191761	4.99946E+13	2.8478096	6.70217E+12	0.0189675	0.5680134	2.8478096
538 539	5866.01 5864.99	575143 575144		5/8/19 10:15 5/8/19 10:20	0.0273545 0.0273545	0.8191761 0.8191761	4.99946E+13 5.16596E+13	2.8488732 2.7565705	6.70217E+12 6.70217E+12	0.0207265 0.0230154	0.6206896 0.6892345	2.8488732 2.7565705
540	5864.99	575144		5/8/19 10:20	0.0273545	0.8191761	5.16596E+13		6.70217E+12 6.70217E+12	0.0230154	0.6787412	2.7633433
541	5893.62	575144		5/8/19 10:30	0.0273545	0.8191761	5.16596E+13		6.70217E+12	0.026083	0.7810989	2.7700267
542	5896.01	575144		5/8/19 10:35	0.0273545	0.8191761	5.16596E+13	2.77115	6.70217E+12	0.0230839	0.6912859	2.77115
543 544	5888.01	575145 575145		5/8/19 10:40 5/8/19 10:45	0.0273545	0.8191761	5.12313E+13	2.790525	6.70217E+12 6.70217E+12	0.0287548	0.8611104	2.790525
544	5881.26 5890.78	575145 575145		5/8/19 10:45	0.0273545 0.0273545	0.8191761 0.8191761	5.12313E+13 5.12313E+13	2.787326 2.7918378	6.70217E+12 6.70217E+12	0.0290496 0.031648	0.8699387 0.9477521	2.787326 2.7918378
546	5902.32	575145		5/8/19 10:55	0.0273545	0.8191761	5.12313E+13	2.797307	6.70217E+12	0.0386126	1.1563187	2.797307
547	5892.56	575146		5/8/19 11:01	0.0256602	0.7684375	5.06462E+13	2.8249464	6.70217E+12	0.1850845	5.5426638	5.5426638
548 549	5892.8 5886.97	575146		5/8/19 11:06	0.0256602 0.0256602	0.7684375	5.06462E+13	2.8250615	6.70217E+12	0.1223436	3.663783 0.8678185	3.663783
550	5886.97	575146 575147		5/8/19 11:11 5/8/19 11:16	0.0256602	0.7684375 0.7684375	5.06462E+13 5.09916E+13	2.8222665 2.8027303	6.70217E+12 6.70217E+12	0.0289788 0.0293671	0.8678185	2.8222665 2.8027303
551	5892.15	575147		5/8/19 11:21	0.0256602	0.7684375	5.09916E+13	2.8056159	6.70217E+12	0.0222423	0.6660827	2.8056159
552	5876.44	575148	0.0951515	5/8/19 11:26	0.0256602	0.7684375	5.08355E+13	2.8067268	6.70217E+12	0.0207227	0.6205758	2.8067268
553	5884.06	575149		5/8/19 11:31	0.0256602	0.7684375	5.07027E+13		6.70217E+12	0.0191584	0.5737302	2.8177282
554 555	5888.27 5886.01	575149 575149		5/8/19 11:36 5/8/19 11:41	0.0256602 0.0256602	0.7684375 0.7684375	5.07027E+13 5.07027E+13	2.8197442 2.818662	6.70217E+12 6.70217E+12	0.0213724 0.0222172	0.6400321 0.6653311	2.8197442 2.818662
556	5884.57	575149		5/8/19 11:41	0.0256602	0.7684375	5.17548E+13	2.818662	6.70217E+12 6.70217E+12	0.0222172	0.6907109	2.7606856
557	5889.82	575150	0.0936741	5/8/19 11:51	0.0256602	0.7684375	5.17548E+13	2.7631486	6.70217E+12	0.0228225	0.6834578	2.7631486
558	5888.19	575151		5/8/19 11:56	0.0256602	0.7684375	5.12716E+13	2.7884168	6.70217E+12	0.0233477	0.6991858	2.7884168
559 560	5872.61	575151 575152		5/8/19 12:01	0.026371	0.7897235	5.12716E+13	2.7810387	6.70217E+12	0.0224703	0.6729106	2.7810387
560	5867.29 5863.69	575152 575152		5/8/19 12:06 5/8/19 12:11	0.026371 0.026371	0.7897235 0.7897235	5.10142E+13 5.10142E+13	2.7925413 2.7908278	6.70217E+12 6.70217E+12	0.0217427 0.0206502	0.6511214 0.6184047	2.7925413 2.7908278
562	5866.61	575153		5/8/19 12:16	0.026371	0.7897235	5.09698E+13		6.70217E+12	0.0211696	0.633959	2.7946505
563	5868.73	575154		5/8/19 12:21	0.026371	0.7897235	5.12032E+13		6.70217E+12	0.0227271	0.6806009	2.7829139
564	5877.65	575154	0.0944876	5/8/19 12:26	0.026371	0.7897235	5.12032E+13	2.7871437	6.70217E+12	0.0262613	0.7864384	2.7871437

F.C.F.	A	B 575156	0.0034937	D F/9/10 13:31	E 0.036371	F 0.7907225	G 5 192175 12	H	6 702175 - 12	0.0246020	K 720407	L 2.7575042
565 566	5886.52 5883.25	575156 575156		5/8/19 12:31 5/8/19 12:36	0.026371 0.026371	0.7897235 0.7897235	5.18317E+13 5.18317E+13	2.7575042 2.7559724	6.70217E+12 6.70217E+12	0.0246938 0.0239477	0.739497 0.7171538	2.7575042 2.7559724
567	5880.8	575156		5/8/19 12:41	0.026371	0.7897235	5.18317E+13	2.7548247	6.70217E+12	0.0215346	0.6448895	2.7548247
568	5886.84	575157		5/8/19 12:46	0.026371	0.7897235	5.20042E+13	2.7485095	6.70217E+12	0.0215175	0.6443774	
569	5887.77	575157	0.0931925		0.026371	0.7897235	5.20042E+13 5.17223E+13	2.7489437 2.7631598	6.70217E+12	0.0210953	0.6317339	2.7489437
570 571	5886.14 5880.23	575159 575159		5/8/19 12:56 5/8/19 13:01	0.026371 0.0224056	0.7897235 0.670973	5.17223E+13 5.17223E+13	2.7631598	6.70217E+12 6.70217E+12	0.0221968 0.0220558	0.6647202 0.6604977	2.7631598 2.7603855
572	5884.79	575159	0.093653		0.0224056	0.670973	5.17223E+13	2.7625261	6.70217E+12	0.0232481	0.6962031	2.7625261
573	5887.12	575159	0.0936901		0.0224056	0.670973	5.17223E+13	2.7636199	6.70217E+12	0.0228614	0.6846227	2.7636199
574	5882.83	575159		5/8/19 13:16	0.0224056	0.670973	5.17223E+13	2.761606	6.70217E+12	0.0286842	0.8589962	2.761606
575 576	5887.05 5885.01	575160 575161	0.095298 0.0954767		0.0224056 0.0224056	0.670973 0.670973	5.0849E+13 5.07362E+13	2.8110496 2.8163217	6.70217E+12 6.70217E+12	0.0210217 0.0209618	0.6295298 0.627736	2.8110496 2.8163217
577	5877.03	575161	0.09534707		0.0224056	0.670973	5.07362E+13	2.8125028	6.70217E+12	0.019652	0.5885119	2.8125028
578	5864.5	575163	0.0928787		0.0224056	0.670973	5.19737E+13	2.7396868	6.70217E+12	0.0197032	0.5900452	2.7396868
579	5878.37	575163	0.0930984		0.0224056	0.670973	5.19737E+13	2.7461664	6.70217E+12	0.0229336	0.6867849	2.7461664
580 581	5884.42	575163	0.0931942		0.0224056	0.670973	5.19737E+13	2.7489927	6.70217E+12	0.027902	0.8355719	2.7489927
581	5882.28 5884.83	575163 575163	0.0931603 0.0932007		0.0224056 0.0224056	0.670973 0.670973	5.19737E+13 5.19737E+13	2.747993 2.7491843	6.70217E+12 6.70217E+12	0.0286405 0.0262751	0.8576875 0.7868517	2.747993 2.7491843
583	5884.52	575164	0.0946934		0.0200678	0.6009637	5.11517E+13	2.793214	6.70217E+12	0.027166	0.8135311	2.793214
584	5879.67	575164	0.0946153		0.0200678	0.6009637	5.11517E+13	2.7909119	6.70217E+12	0.0243166	0.7282011	2.7909119
585	5877.49	575164	0.0945802		0.0200678	0.6009637	5.11517E+13	2.7898771	6.70217E+12	0.0208701	0.6249899	2.7898771
586 587	5887.28 5884.05	575166 575166	0.0950829	5/8/19 14:16 5/8/19 14:21	0.0200678 0.0200678	0.6009637 0.6009637	5.0966E+13 5.0966E+13	2.8047039 2.8031651	6.70217E+12 6.70217E+12	0.0218292 0.0217633	0.6537118 0.6517383	2.8047039 2.8031651
588	5885.12	575166		5/8/19 14:26	0.0200678	0.6009637	5.0966E+13	2.8036749	6.70217E+12	0.0217033	0.6521815	2.8036749
589	5902.91	575167	0.0961455	5/8/19 14:31	0.0200678	0.6009637	5.05365E+13	2.836049	6.70217E+12	0.021451	0.6423859	2.836049
590	5902.72	575167		5/8/19 14:36	0.0200678	0.6009637	5.05365E+13	2.8359577	6.70217E+12	0.1801174	5.3939157	5.3939157
591 592	5906.61 5912.28	575167 575167	0.0962058 0.0962981		0.0200678 0.0200678	0.6009637 0.6009637	5.05365E+13 5.05365E+13	2.8378267 2.8405508	6.70217E+12 6.70217E+12	0.0426523 0.1999116	1.2772942 5.986686	2.8378267 5.986686
592	5912.28	575167	0.095031		0.0200678	0.6009637	5.05365E+13 5.1179E+13	2.8405508	6.70217E+12 6.70217E+12	0.1999116	7.997452	7.997452
594	5900.02	575170	0.0948922		0.0200678	0.6009637	5.1179E+13	2.7990785	6.70217E+12	0.0299601	0.8972051	2.7990785
595	5884.23	575171	0.0950701		0.0170556	0.5107584	5.09465E+13	2.8043263	6.70217E+12	0.0297971	0.8923238	2.8043263
596 597	5890.02 5890.65	575171 575171	0.0951636 0.0951738		0.0170556 0.0170556	0.5107584 0.5107584	5.09465E+13 5.09465E+13	2.8070857 2.8073859	6.70217E+12 6.70217E+12	0.0254303 0.0264722	0.7615527 0.7927541	2.8070857 2.8073859
597	5890.65	575171		5/8/19 15:11	0.0170556	0.5107584	5.09465E+13 5.09465E+13	2.80/3859	6.70217E+12 6.70217E+12	0.0264722	0.7927541	2.80/3859
599	5883.01	575172	0.0962041		0.0170556	0.5107584	5.03355E+13	2.837777	6.70217E+12	0.0222239	0.6655317	2.837777
600	5877.22	575172	0.0961094	5/8/19 15:26	0.0170556	0.5107584	5.03355E+13	2.8349841	6.70217E+12	0.021497	0.6437635	2.8349841
601	5882.35 5895.23	575173 575174	0.0955836 0.0960485		0.0170556 0.0170556	0.5107584 0.5107584	5.06566E+13 5.05218E+13	2.8194728 2.8331879	6.70217E+12 6.70217E+12	0.0233908 0.0260191	0.7004765 0.7791853	2.8194728 2.8331879
602	5891.02	575174	0.0959799		0.0170556	0.5107584	5.05218E+13	2.8331646	6.70217E+12 6.70217E+12	0.0204508	0.6124333	2.8311646
604	5895.3	575174		5/8/19 15:46	0.0170556	0.5107584	5.05218E+13	2.8332215	6.70217E+12	0.0203869	0.6105197	2.8332215
605	5898.69	575174		5/8/19 15:51	0.0170556	0.5107584	5.05218E+13	2.8348507	6.70217E+12	0.0210614	0.6307187	2.8348507
606	5898.34	575175	0.0970802		0.0170556	0.5107584	5.00112E+13	2.863621	6.70217E+12	0.0209194	0.6264663	2.863621
607 608	5900.14 5891.31	575176 575176	0.0971661 0.0970207		0.0174326 0.0174326	0.5220483 0.5220483	4.99823E+13 4.99823E+13	2.8661537 2.8618643	6.70217E+12 6.70217E+12	0.0209977 0.0203367	0.6288111 0.6090164	2.8661537 2.8618643
609	5893.65	575176	0.0970592		0.0174326	0.5220483	4.99823E+13	2.863001	6.70217E+12	0.0213506	0.6393793	2.863001
610	5892.53	575177	0.0969298	5/8/19 16:16	0.0174326	0.5220483	5.00395E+13	2.8591849	6.70217E+12	0.0261533	0.7832042	2.8591849
611	5894.16	575177		5/8/19 16:21	0.0174326	0.5220483	5.00395E+13	2.8599758	6.70217E+12	0.0258626	0.7744987	2.8599758
612	5895.84 5896.89	575178 575179		5/8/19 16:26 5/8/19 16:31	0.0174326 0.0174326	0.5220483 0.5220483	4.97004E+13 4.94846E+13	2.88031 2.8933819	6.70217E+12 6.70217E+12	0.0215949 0.0198411	0.6466953 0.5941748	2.88031 2.8933819
614	5902.19	575180	0.0983841		0.0174326	0.5220483	4.93807E+13	2.9020809	6.70217E+12	0.0207134	0.6202973	2.9020809
615	5905.9	575181		5/8/19 16:41	0.0174326	0.5220483	4.98424E+13	2.8770052	6.70217E+12	0.0223016	0.6678586	2.8770052
616 617	5906.84 5904.42	575181 575181	0.0975495	5/8/19 16:46 5/8/19 16:51	0.0174326 0.0174326	0.5220483 0.5220483	4.98424E+13 4.98424E+13	2.8774631 2.8762842	6.70217E+12 6.70217E+12	0.0254538 0.025079	0.7622565 0.7510325	2.8774631 2.8762842
618	5903.02	575181		5/8/19 16:56	0.0174326	0.5220483	4.98424E+13	2.8756022	6.70217E+12	0.0246071	0.7369006	2.8756022
619	5894.63	575182		5/8/19 17:01	0.0174032	0.5211678	4.90525E+13	2.9177544	6.70217E+12	0.0226389	0.6779596	2.9177544
620	5898.06 5891.22	575182		5/8/19 17:06	0.0174032	0.5211678	4.90525E+13		6.70217E+12	0.0256642	0.7685572	2.9194522
621 622	5891.22	575182 575182		5/8/19 17:11 5/8/19 17:16	0.0174032 0.0174032	0.5211678 0.5211678	4.90525E+13 4.90525E+13		6.70217E+12 6.70217E+12	0.0384273 0.0364449	1.1507695 1.0914033	
623	5895.57	575183		5/8/19 17:21	0.0174032	0.5211678	4.86826E+13		6.70217E+12	0.0191003	0.5719903	2.9403898
624	5896.91	575183	0.0997054	5/8/19 17:26	0.0174032	0.5211678	4.86826E+13	2.9410582	6.70217E+12	0.0230176	0.6893004	2.9410582
625	5918.72	575183		5/8/19 17:31	0.0174032	0.5211678	4.86826E+13	2.9519358	6.70217E+12	0.0030289	0.0907055	2.9519358
626 627	5926.18 5934.97	575183 575183		5/8/19 17:36 5/8/19 17:41	0.0174032 0.0174032	0.5211678 0.5211678	4.86826E+13 4.86826E+13	2.9556564 2.9600404	6.70217E+12 6.70217E+12	0.0439309 0.0408583	1.315584 1.2235699	2.9556564 2.9600404
628	5944.99	575185		5/8/19 17:41	0.0174032	0.5211678	4.86669E+13	2.9659989	6.70217E+12 6.70217E+12	0.0408383	0.512061	2.9659989
629	5940.01	575185		5/8/19 17:51	0.0174032	0.5211678	4.86669E+13	2.9635144	6.70217E+12	0.0183967	0.5509198	2.9635144
630	5931.52	575186		5/8/19 17:56	0.0174032	0.5211678	4.83948E+13	2.9759139	6.70217E+12	0.0163528	0.4897119	2.9759139
631 632	5938.6 5931.02	575188 575189		5/8/19 18:01 5/8/19 18:06	0.0165475 0.0165475	0.4955425 0.4955425	4.95535E+13 4.98071E+13	2.9097985 2.8912849	6.70217E+12 6.70217E+12	0.0185884 0.0173413	0.5566606 0.5193141	2.9097985 2.8912849
633	5928.19	575189		5/8/19 18:12	0.0165475	0.4955425	4.98071E+13	2.8899053	6.70217E+12 6.70217E+12	0.0173413	0.5626949	2.8899053
634	5932.23	575189	0.0980381	5/8/19 18:17	0.0165475	0.4955425	4.98071E+13	2.8918748	6.70217E+12	0.0180684	0.5410884	2.8918748
635	5931.78	575189		5/8/19 18:22	0.0165475	0.4955425	4.98071E+13	2.8916554	6.70217E+12	0.0164812	0.493557	2.8916554
636 637	5964.15 5899.89	575189 575189		5/8/19 18:27 5/8/19 18:32	0.0165475 0.0165475	0.4955425 0.4955425	4.98071E+13 4.98071E+13	2.9074353 2.8761095	6.70217E+12 6.70217E+12	0.0180238 0.0168118	0.5397527 0.5034574	2.9074353 2.8761095
638	5931.45	575189		5/8/19 18:37	0.0165475	0.4955425	4.84199E+13	2.8761095	6.70217E+12 6.70217E+12	0.0108118	0.3662927	2.8761093
639	5929.97	575190	0.1008085	5/8/19 18:42	0.0165475	0.4955425	4.84199E+13	2.973594	6.70217E+12	0.0162317	0.4860853	2.973594
640	5923.2	575191		5/8/19 18:47	0.0165475	0.4955425	4.90239E+13	2.9336031	6.70217E+12	0.0090855	0.2720804	
641 642	5934.99 5940.66	575192 575194		5/8/19 18:52 5/8/19 18:57	0.0165475 0.0165475	0.4955425 0.4955425	4.92195E+13 4.94421E+13	2.9277617 2.9173636	6.70217E+12 6.70217E+12	0.0122121 0.0091815	0.3657117 0.2749553	2.9277617 2.9173636
643	5940.66	575194 575194		5/8/19 18:57	0.0158704	0.4955425	4.94421E+13 4.94421E+13	2.91/3636	6.70217E+12 6.70217E+12	0.0091815	0.2749553	
644	5964.98	575194		5/8/19 19:07	0.0158704	0.4752656	4.94421E+13	2.9293068	6.70217E+12	0.0152734	0.4573874	
645	5960.1	575194		5/8/19 19:12	0.0158704	0.4752656	4.94421E+13	2.9269103	6.70217E+12	0.0109359	0.3274938	2.9269103
646	5946.01	575194		5/8/19 19:17	0.0158704	0.4752656	4.94421E+13	2.9199909	6.70217E+12	0.0150092	0.4494755	2.9199909
647 648	5937.16 5955.08	575194 575194		5/8/19 19:22 5/8/19 19:27	0.0158704 0.0158704	0.4752656 0.4752656	4.94421E+13 4.94421E+13	2.9156448 2.9244451	6.70217E+12 6.70217E+12	0.0154969 0.0152611	0.4640805 0.4570191	2.9156448 2.9244451
649	5957.98	575195		5/8/19 19:32	0.0158704	0.4752656	4.85444E+13	2.979976	6.70217E+12	0.0228461	0.6841645	2.979976
650	5962.91	575195	0.1011084	5/8/19 19:37	0.0158704	0.4752656	4.85444E+13	2.9824418	6.70217E+12	0.0165428	0.4954017	2.9824418
651	5956.59	575195		5/8/19 19:42	0.0158704	0.4752656	4.85444E+13	2.9792807	6.70217E+12	0.0163774	0.4904485	2.9792807
652 653	5957.7 5969.98	575195 575195		5/8/19 19:47 5/8/19 19:52	0.0158704 0.0158704	0.4752656 0.4752656	4.85444E+13 4.85444E+13	2.9798359 2.985978	6.70217E+12 6.70217E+12	0.0147872 0.0161979	0.4428273 0.4850731	2.9798359 2.985978
654	5987.65	575195		5/8/19 19:57	0.0158704	0.4752656	4.85444E+13	2.9948159	6.70217E+12	0.0140256	0.42002	2.9948159
655	6036.6	575195	0.1023579	5/8/19 20:02	0.013261	0.3971227	4.85444E+13	3.019299	6.70217E+12	0.0154454	0.4625382	3.019299
656	6037.49	575196		5/8/19 20:07	0.013261	0.3971227	4.73117E+13	3.0984226	6.70217E+12	0.0157078	0.4703963	3.0984226
657 658	6092.47 6052.38	575196 575196		5/8/19 20:12 5/8/19 20:17	0.013261 0.013261	0.3971227 0.3971227	4.73117E+13 4.73117E+13	3.1266382 3.1060641	6.70217E+12 6.70217E+12	0.0215321 0.018557	0.6448146 0.5557203	3.1266382 3.1060641
0.00	JJJ2.J0	2,2120	0.1032334	2/ 5/ 12 20.1/	0.013201	0.3311221	/JII/L/13	3.2000041	U UE1/L!12	0.010337	0.3337203	5.1000041

650	A	B	C 0.4035005	D	E 0.012261	F 0.2074.227	G	H	6 702475 . 42	J 0.0163505	K	L
659 660	6053.32 6041.03	575199 575200		5/8/19 20:22 5/8/19 20:27	0.013261 0.013261	0.3971227 0.3971227	4.80997E+13 4.8162E+13	3.0556586 3.0455058	6.70217E+12 6.70217E+12	0.0163585 0.0188459	0.4898825 0.5643719	3.0556586 3.0455058
661	6030.66	575202		5/8/19 20:32	0.013261	0.3971227	4.80789E+13	3.0455341	6.70217E+12	0.0134602	0.4030881	3.0455341
662	6043.34	575204		5/8/19 20:37	0.013261	0.3971227	4.81808E+13	3.0454809	6.70217E+12	0.0164743	0.4933504	3.0454809
663	6042.19	575204	0.1032259		0.013261	0.3971227	4.81808E+13	3.0449014	6.70217E+12	0.0147002	0.440222	3.0449014
664 665	6049.96 6051.76	575204 575205	0.1033586	5/8/19 20:47 5/8/19 20:52	0.013261 0.013261	0.3971227 0.3971227	4.81808E+13 4.7865E+13	3.048817 3.0698443	6.70217E+12 6.70217E+12	0.0148678 0.0130545	0.4452411 0.3909388	3.048817 3.0698443
666	6054.77	575206	0.1045618		0.013261	0.3971227	4.76643E+13	3.084309	6.70217E+12	0.0122348	0.3663915	3.084309
667	6045.31	575206	0.1043985		0.0057558	0.172367	4.76643E+13	3.0794901	6.70217E+12	0.0113115	0.3387417	3.0794901
668	6042.99	575207		5/8/19 21:07	0.0057558	0.172367	4.7682E+13	3.0771614	6.70217E+12	0.0064092	0.1919342	3.0771614
669 670	6038.47 6046.62	575207 575207	0.1042415 0.1043822	5/8/19 21:12 5/8/19 21:17	0.0057558 0.0057558	0.172367 0.172367	4.7682E+13 4.7682E+13	3.0748598 3.0790099	6.70217E+12 6.70217E+12	0.0050076 -0.0026668	0.1499609 -0.0798618	3.0748598 3.0790099
671	6044.8	575207	0.1043508		0.0057558	0.172367	4.7682E+13	3.0780831	6.70217E+12	0.0105849	0.3169825	3.0780831
672	6048.33	575207	0.1044117		0.0057558	0.172367	4.7682E+13	3.0798806	6.70217E+12	0.0086089	0.2578079	3.0798806
673	6052.87	575208	0.1057954		0.0057558	0.172367	4.70937E+13	3.1206959	6.70217E+12	0.0018	0.053904	3.1206959
674 675	6056.61 6059.99	575210 575212	0.1055202 0.0995054		0.0057558 0.0057558	0.172367 0.172367	4.72457E+13 5.01295E+13	3.1125773 2.9351584	6.70217E+12 6.70217E+12	-0.0021614 -0.0034416	-0.0647267 -0.1030644	3.1125773 2.9351584
676	6049.69	575212	0.0988159		0.0057558	0.172367	5.03935E+13	2.9331384	6.70217E+12	-0.0034416	-0.1030044	2.9148188
677	6056.42	575214	0.0996142		0.0057558	0.172367	5.00453E+13	2.9383674	6.70217E+12	-0.0023178	-0.0694104	2.9383674
678	6045.27	575214	0.0994308		0.0057558	0.172367	5.00453E+13	2.9329578	6.70217E+12	0.0029429	0.08813	2.9329578
679 680	6041.19 6033.23	575214 575215	0.0993637 0.0986577		-0.0039885 -0.0039885	-0.1194423 -0.1194423	5.00453E+13 5.0337E+13	2.9309783 2.9101535	6.70217E+12 6.70217E+12	0.0028846 -0.0021717	0.0863842 -0.0650352	2.9309783 2.9101535
681	6034.99	575215	0.0986865		-0.0039885	-0.1194423	5.0337E+13	2.9101333	6.70217E+12 6.70217E+12	0.0021717	0.2822054	2.9101535
682	6042.83	575215		5/8/19 22:17	-0.0039885	-0.1194423	5.0337E+13	2.9147841	6.70217E+12	-0.0117128	-0.3507593	2.9147841
683	6033.48	575216	0.0981874		-0.0039885	-0.1194423	5.05802E+13		6.70217E+12	-0.0071632	-0.214514	2.8962791
684 685	6028.01 6027.43	575217 575217	0.0985494 0.0985399	5/8/19 22:27 5/8/19 22:32	-0.0039885 -0.0039885	-0.1194423 -0.1194423	5.03487E+13 5.03487E+13	2.9069577 2.906678	6.70217E+12 6.70217E+12	-0.0043047 -0.0026014	-0.1289114 -0.0779033	2.9069577 2.906678
686	6027.43	575217	0.0985399	5/8/19 22:32	-0.0039885	-0.1194423 -0.1194423	5.03487E+13 5.03487E+13	2.906678	6.70217E+12 6.70217E+12	-0.0026014	-0.0779033	2.906678
687	6039.16	575219	0.0983331		-0.0039885	-0.1194423	5.05528E+13	2.9005763	6.70217E+12	-0.0017083	-0.05391	2.9005763
688	6039.06	575221	0.0975716	5/8/19 22:47	-0.0039885	-0.1194423	5.09465E+13	2.8781157	6.70217E+12	0.0035525	0.1063855	2.8781157
689	6035.97	575221	0.0975217		-0.0039885 -0.0039885	-0.1194423 -0.1194423	5.09465E+13 5.1179E+13	2.876643	6.70217E+12 6.70217E+12	-0.0028608	-0.0856714 -0.1327656	2.876643
690 691	6041.91 6066.64	575222 575224	0.0971742 0.1014592	5/8/19 22:57 5/9/19 0:02	-0.0039885 -0.0060127	-0.1194423 -0.1800603	5.1179E+13 4.92181E+13	2.8663937 2.9927906	6.70217E+12 6.70217E+12	-0.0044334 -0.0145142	-0.1327656 -0.4346519	2.8663937 2.9927906
692	6072.36	575225	0.1021048	5/9/19 0:07	-0.0060127	-0.1800603	4.89531E+13	3.0118316	6.70217E+12	-0.0130235	-0.3900104	3.0118316
693	6068.07	575225	0.1020326	5/9/19 0:12	-0.0060127	-0.1800603	4.89531E+13	3.0097038	6.70217E+12	-0.0286682	-0.858517	3.0097038
694 695	6076.08 6077.05	575225 575225	0.1021673 0.1021836	5/9/19 0:17 5/9/19 0:22	-0.0060127 -0.0060127	-0.1800603 -0.1800603	4.89531E+13 4.89531E+13	3.0136767 3.0141578	6.70217E+12 6.70217E+12	-0.0231556 -0.0015472	-0.693433 -0.0463335	3.0136767 3.0141578
696	6056.56	575225	0.10218391	5/9/19 0:27	-0.0060127	-0.1800603	4.89531E+13	3.003995	6.70217E+12	-0.0013472	-0.0463333	3.003995
697	6053.34	575225	0.1017849	5/9/19 0:37	-0.0060127	-0.1800603	4.89531E+13	3.0023979	6.70217E+12	-0.0181456	-0.5434002	3.0023979
698	6047.02	575227	0.1035951	5/9/19 0:42	-0.0060127	-0.1800603	4.80475E+13	3.0557938	6.70217E+12	-0.0191353	-0.5730385	3.0557938
699 700	6061.52 6050.01	575227 575229	0.1038435 0.103384	5/9/19 0:47 5/9/19 0:52	-0.0060127 -0.0060127	-0.1800603 -0.1800603	4.80475E+13 4.81694E+13	3.0631212 3.0495651	6.70217E+12 6.70217E+12	-0.0107209 0.0010001	-0.3210552	3.0631212
700	6044.15	575229	0.1032838	5/9/19 0:57	-0.0060127	-0.1800603	4.81694E+13	3.0495651	6.70217E+12 6.70217E+12	-0.0010001	0.0299497 -0.1221764	3.0495651 3.0466114
702	6044.76	575229	0.1032943	5/9/19 1:02	-0.0084514	-0.2530913	4.81694E+13	3.0469188	6.70217E+12	-0.0033111	-0.0991564	3.0469188
703	6039.56	575229	0.1032054	5/9/19 1:07	-0.0084514	-0.2530913	4.81694E+13	3.0442977	6.70217E+12	-0.0031204	-0.0934456	3.0442977
704	6042.9	575231	0.1030119	5/9/19 1:12	-0.0084514	-0.2530913	4.82866E+13	3.0385906	6.70217E+12	-0.0012951	-0.0387839	3.0385906
705 706	6042.77 6053.94	575232 575233	0.1030817 0.1033545	5/9/19 1:17 5/9/19 1:22	-0.0084514 -0.0084514	-0.2530913 -0.2530913	4.82528E+13 4.82145E+13	3.0406489 3.0486951	6.70217E+12 6.70217E+12	-0.0005672 -0.0121807	-0.0169857 -0.3647714	3.0406489 3.0486951
707	6056.93	575233	0.1033545	5/9/19 1:27	-0.0084514	-0.2530913	4.82145E+13	3.0502008	6.70217E+12	-0.0149888	-0.4488646	3.0502008
708	6055.69	575233	0.1033843	5/9/19 1:32	-0.0084514	-0.2530913	4.82145E+13	3.0495763	6.70217E+12	-0.0147726	-0.4423901	3.0495763
709 710	6058.16 6059.3	575233 575234	0.1034265 0.1038084	5/9/19 1:37 5/9/19 1:42	-0.0084514 -0.0084514	-0.2530913 -0.2530913	4.82145E+13 4.80461E+13	3.0508202 3.0620845	6.70217E+12 6.70217E+12	-0.0157309 -0.0227758	-0.471088 -0.6820593	3.0508202 3.0620845
711	6061.34	575235	0.1031342	5/9/19 1:47	-0.0084514	-0.2530913	4.83765E+13	3.0421965	6.70217E+12	-0.0227738	-0.7942844	3.0421965
712	6073.89	575235	0.1033477	5/9/19 1:52	-0.0084514	-0.2530913	4.83765E+13	3.0484953	6.70217E+12	-0.0258125	-0.7729983	3.0484953
713	6070.6	575236	0.1036534	5/9/19 1:57	-0.0084514	-0.2530913	4.82077E+13	3.0575115	6.70217E+12	-0.0270166	-0.8090571	3.0575115
714	6070.34 6070.64	575237 575238	0.1039744 0.1033994		-0.009959 -0.009959	-0.2982389 -0.2982389	4.80568E+13 4.83264F+13		6.70217E+12 6.70217E+12	-0.0241909 -0.0192845	-0.7244368 -0.5775065	3.0669809 3.0500217
716	6066.1	575238	0.1033334		-0.009959	-0.2982389	4.83264E+13	J.0500E17	6.70217E+12	-0.0253576	-0.7593756	
717	6051.34	575238	0.1030707		-0.009959	-0.2982389	4.83264E+13	3.040325	6.70217E+12	-0.0277084	-0.8297742	3.040325
718	6061.78	575239	0.1040791	5/9/19 2:22	-0.009959	-0.2982389	4.79408E+13		6.70217E+12	-0.0259793	-0.7779934	3.0700698
719 720	6063.51 6069.07	575239 575240	0.1041088 0.1042563	5/9/19 2:27 5/9/19 2:32	-0.009959 -0.009959	-0.2982389 -0.2982389	4.79408E+13 4.79168E+13	3.070946 3.0752977	6.70217E+12 6.70217E+12	-0.0268247 -0.0240329	-0.8033103 -0.7197052	3.070946 3.0752977
721	6065.45	575242	0.1026794		-0.009959	-0.2982389	4.86237E+13	3.0287832	6.70217E+12	-0.0250565	-0.7503587	3.0287832
722	6056.78	575242	0.1025327	5/9/19 2:43	-0.009959	-0.2982389	4.86237E+13	3.0244539	6.70217E+12	-0.0183811	-0.5504527	3.0244539
723	6054.89	575242	0.1025007	5/9/19 2:48	-0.009959	-0.2982389	4.86237E+13	3.0235101	6.70217E+12	-0.0211004	-0.6318866	3.0235101
724 725	6052.82 6054.43	575243 575243	0.1032503 0.1032777		-0.009959 -0.009959	-0.2982389 -0.2982389	4.82542E+13 4.82542E+13	3.0456209 3.046431	6.70217E+12 6.70217E+12	-0.0280966 -0.0255341	-0.8413995 -0.7646612	3.0456209 3.046431
726	6054.32	575244	0.1032777	5/9/19 3:03	-0.0077595	-0.2323712	4.82017E+13	3.049695	6.70217E+12	-0.0035264	-0.1056039	3.049695
727	6068.65	575246	0.1006368	5/9/19 3:08	-0.0077595	-0.2323712	4.96368E+13	2.9685297	6.70217E+12	-0.0237767	-0.7120329	2.9685297
728 729	6068.33 6063.73	575249 575250	0.0992317 0.0992085	5/9/19 3:13 5/9/19 3:18	-0.0077595 -0.0077595	-0.2323712 -0.2323712	5.0337E+13 5.03106E+13	2.9270841 2.9263997	6.70217E+12 6.70217E+12	-0.0227655 -0.0241747	-0.6817508 -0.7239517	2.9270841 2.9263997
730	6046.71	575250	0.0992085	5/9/19 3:18	-0.0077595	-0.2323712	5.03106E+13		6.70217E+12 6.70217E+12	-0.0241747	-0.7239517	2.9263997
731	6046.74	575251	0.099455	5/9/19 3:28	-0.0077595	-0.2323712	5.00453E+13	2.933671	6.70217E+12	-0.0228565	-0.684476	2.933671
732	6058.26	575252	0.0992865		-0.0077595	-0.2323712	5.02257E+13	2.9286995	6.70217E+12	-0.0237663	-0.7117215	2.9286995
733 734	6064.08 6061.98	575252 575252	0.0993819 0.0993474		-0.0077595 -0.0077595	-0.2323712 -0.2323712	5.02257E+13 5.02257E+13	2.931513 2.9304978	6.70217E+12 6.70217E+12	-0.0229553 -0.0218107	-0.6874347 -0.6531578	2.931513 2.9304978
735	6061.61	575252	0.0993414	5/9/19 3:48	-0.0077595	-0.2323712	5.02257E+13	2.9304978	6.70217E+12 6.70217E+12	-0.0218107	-0.6847335	2.9304978
736	6055.44	575252	0.0992403	5/9/19 3:53	-0.0077595	-0.2323712	5.02257E+13	2.9273362	6.70217E+12	-0.0258057	-0.7727947	2.9273362
737	6048.17	575253	0.1013391	5/9/19 3:58	-0.0077595	-0.2323712	4.91264E+13		6.70217E+12	-0.0222549	-0.6664601	2.9892481
738 739	6036.54 6032.68	575253 575254	0.1011443 0.1009675	5/9/19 4:03 5/9/19 4:08	-0.0064119 -0.0064119	-0.192015 -0.192015	4.91264E+13 4.9181E+13		6.70217E+12 6.70217E+12	-0.0201096 -0.0220837	-0.6022155 -0.6613332	2.9835001 2.9782848
740	6036.52	575254	0.1010317		-0.0064119	-0.192015	4.9181E+13		6.70217E+12 6.70217E+12	-0.0220837	-0.5678217	2.9801806
741	6048.03	575254	0.1012244	5/9/19 4:18	-0.0064119	-0.192015	4.9181E+13	2.985863	6.70217E+12	-0.0284786	-0.8528391	2.985863
742	6049.12	575254	0.1012426		-0.0064119	-0.192015	4.9181E+13		6.70217E+12	-0.0265276	-0.7944132	2.9864011
743 744	6047.1 6040.01	575255 575255	0.102742 0.1026215	5/9/19 4:28 5/9/19 4:33	-0.0064119 -0.0064119	-0.192015 -0.192015	4.84471E+13 4.84471E+13	3.0306289 3.0270756	6.70217E+12 6.70217E+12	-0.0220302 -0.0249572	-0.6597311 -0.7473849	3.0306289 3.0270756
745	6039.32	575256	0.1020213	5/9/19 4:38	-0.0064119	-0.192015	4.80809E+13	3.0497802	6.70217E+12	-0.0249372	-0.8189695	3.0497802
746	6037.47	575256	0.1033596	5/9/19 4:43	-0.0064119	-0.192015	4.80809E+13	3.0488459	6.70217E+12	-0.0285916	-0.8562231	3.0488459
747	6046.95	575256	0.1035219		-0.0064119	-0.192015	4.80809E+13	3.0536332	6.70217E+12	-0.0276954	-0.8293849	3.0536332
748 749	6051.57 6052.41	575256 575257	0.103601 0.1025409	5/9/19 4:53 5/9/19 4:58	-0.0064119 -0.0064119	-0.192015 -0.192015	4.80809E+13 4.85847E+13	3.0559662 3.0246966	6.70217E+12 6.70217E+12	-0.0189461 -0.0213883	-0.5673725 -0.6405083	3.0559662 3.0246966
750	6058.73	575257	0.1025403	5/9/19 5:03	-0.001004	-0.0300665	4.85847E+13	3.027855	6.70217E+12	-0.0213885	-0.8534351	3.027855
751	6054.8	575258	0.1018989	5/9/19 5:08	-0.001004	-0.0300665	4.89101E+13	3.0057607	6.70217E+12	-0.0254371	-0.7617564	3.0057607
752	6051.38	575258	0.1018414	5/9/19 5:13	-0.001004	-0.0300665	4.89101E+13	3.0040629	6.70217E+12	-0.0222254	-0.6655766	3.0040629

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753	A 6048.3	B 575258	0.1017896	D 5/9/19 5:18	E -0.001004	-0.0300665	G 4.89101E+13	H 3.0025339	6.70217E+12	-0.0245437	-0.735002	3.0025339
754	6051.14	575258	0.10178373	5/9/19 5:23	-0.001004	-0.0300665	4.89101E+13	3.0023333	6.70217E+12	-0.0272051	-0.8147021	3.0023333
755	6057.19	575258	0.1010373	5/9/19 5:28	-0.001004	-0.0300665	4.89101E+13	3.0069471	6.70217E+12	-0.026005	-0.7787631	3.0069471
756	6059.15	575259	0.1040181	5/9/19 5:33	-0.001004	-0.0300665	4.79481E+13	3.0682693	6.70217E+12	-0.0148258	-0.4439833	3.0682693
757	6061.72	575260	0.1037848	5/9/19 5:38	-0.001004	-0.0300665	4.80762E+13	3.0613901	6.70217E+12	-0.0244808	-0.7331184	3.0613901
758	6057.72	575260	0.1037164	5/9/19 5:43	-0.001004	-0.0300665	4.80762E+13	3.05937	6.70217E+12	-0.0243887	-0.7303603	3.05937
759	6057.7	575260	0.103716	5/9/19 5:48	-0.001004	-0.0300665	4.80762E+13	3.0593599	6.70217E+12	-0.0198852	-0.5954955	3.0593599
760	6047.35	575260	0.1035388	5/9/19 5:53	-0.001004	-0.0300665	4.80762E+13	3.0541327	6.70217E+12	-0.0198875	-0.5955643	3.0541327
761	6044.98	575261	0.1039808	5/9/19 5:58	-0.001004	-0.0300665	4.78531E+13	3.0671699	6.70217E+12	-0.0198792	-0.5953158	3.0671699
762	6040.28	575262	0.1043375	5/9/19 6:03	0.0099891	0.2991402	4.76524E+13	3.077692	6.70217E+12	-0.0173633	-0.519973	3.077692
763	6034.01	575263	0.1041918	5/9/19 6:08	0.0099891	0.2991402	4.76695E+13	3.0733946	6.70217E+12	-0.018275	-0.5472753	3.0733946
764	6034.26	575263	0.1041961	5/9/19 6:13	0.0099891	0.2991402	4.76695E+13	3.0735219	6.70217E+12	-0.0079803	-0.2389834	3.0735219
765	6037.47	575263	0.1042516	5/9/19 6:18 5/9/19 6:23	0.0099891	0.2991402	4.76695E+13	3.0751569	6.70217E+12	-0.0028126	-0.084228	3.0751569
766 767	6035.61 6032.26	575264 575264	0.1036859 0.1036283	5/9/19 6:23	0.0099891 0.0099891	0.2991402 0.2991402	4.79148E+13 4.79148E+13	3.0584702 3.0567726	6.70217E+12 6.70217E+12	-0.0009188 -0.0017763	-0.027515 -0.0531943	3.0584702 3.0567726
768	6035.08	575266	0.1030283	5/9/19 6:33	0.0099891	0.2991402	4.90392E+13	2.988081	6.70217E+12	-0.0017703	-0.0886811	2.988081
769	6038.27	575266	0.1012530	5/9/19 6:38	0.0099891	0.2991402	4.90392E+13	2.9896604	6.70217E+12	-0.0017698	-0.0529996	2.9896604
770	6038.35	575267	0.1004336	5/9/19 6:43	0.0099891	0.2991402	4.94889E+13	2.9625364	6.70217E+12	-0.0040978	-0.1227155	2.9625364
771	6041.06	575267	0.1004787	5/9/19 6:48	0.0099891	0.2991402	4.94889E+13	2.963866	6.70217E+12	-0.0041121	-0.1231437	2.963866
772	6032.6	575269	0.1003466	5/9/19 6:53	0.0099891	0.2991402	4.94846E+13	2.9599697	6.70217E+12	-0.0017941	-0.0537273	2.9599697
773	6038.62	575269	0.1004467	5/9/19 6:58	0.0099891	0.2991402	4.94846E+13	2.9629235	6.70217E+12	-0.0169009	-0.5061256	2.9629235
774	6023.18	575269	0.1001899	5/9/19 7:03	0.015734	0.4711809	4.94846E+13	2.9553477	6.70217E+12	-0.0127165	-0.3808168	2.9553477
775	6018.06	575270	0.100393	5/9/19 7:08	0.015734	0.4711809	4.93426E+13	2.9613379	6.70217E+12	-0.0057831	-0.1731846	2.9613379
776	6028.56	575270	0.1005681	5/9/19 7:13	0.015734	0.4711809	4.93426E+13	2.9665047	6.70217E+12	-0.0011814	-0.035379	2.9665047
777	6023.05	575271	0.1000255	5/9/19 7:18	0.015734	0.4711809	4.95649E+13	2.9505	6.70217E+12	-0.0018878	-0.0565333	2.9505
778	6002.6	575271	0.0996859	5/9/19 7:23	0.015734	0.4711809	4.95649E+13	2.9404822	6.70217E+12	-0.0019315	-0.057842	2.9404822
779	6004.55	575271	0.0997183	5/9/19 7:28	0.015734	0.4711809 0.4711809	4.95649E+13	2.9414374	6.70217E+12	-0.0032781	-0.0981682	2.9414374
780 781	6023.65 6022.52	575271 575272	0.1000355 0.1006869	5/9/19 7:33 5/9/19 7:38	0.015734 0.015734	0.4711809	4.95649E+13 4.9235E+13	2.9507939 2.9700094	6.70217E+12 6.70217E+12	-0.0044118 -0.0183056	-0.1321187 -0.5481917	2.9507939 2.9700094
782	6016.76	575272	0.1005906	5/9/19 7:43	0.015734	0.4711809	4.9235E+13	2.9671688	6.70217E+12	-0.0183030	-0.1337119	2.9671688
783	6007.87	575272	0.1003900	5/9/19 7:48	0.015734	0.4711809	4.9235E+13	2.9627847	6.70217E+12	-0.004463	-0.1337119	2.9627847
784	5998.51	575272	0.1002855	5/9/19 7:53	0.015734	0.4711809	4.9235E+13	2.9581688	6.70217E+12	-0.0019525	-0.0584709	2.9581688
785	6004.67	575273	0.101848	5/9/19 7:58	0.015734	0.4711809	4.85294E+13	3.0042572	6.70217E+12	-0.016446	-0.4925029	3.0042572
786	5986.82	575273	0.1015452	5/9/19 8:03	0.0212738	0.6370794	4.85294E+13	2.9953265	6.70217E+12	-0.0226577	-0.6785226	2.9953265
787	5966.01	575273	0.1011922	5/9/19 8:08	0.0212738	0.6370794	4.85294E+13	2.9849149	6.70217E+12	-0.0040549	-0.1214307	2.9849149
788	5975.72	575273	0.1013569	5/9/19 8:13	0.0212738	0.6370794	4.85294E+13	2.989773	6.70217E+12	0.0088876	0.266154	2.989773
789	5974.19	575273	0.101331	5/9/19 8:18	0.0212738	0.6370794	4.85294E+13	2.9890075	6.70217E+12	0.0059397	0.1778742	2.9890075
790	5989.16	575275	0.1021458	5/9/19 8:23	0.0212738	0.6370794	4.8263E+13	3.0130416	6.70217E+12	0.005809	0.1739602	3.0130416
791	5989.1	575275	0.1021448	5/9/19 8:28	0.0212738	0.6370794	4.8263E+13	3.0130114	6.70217E+12	0.0001868	0.005594	3.0130114
792	5990.38	575275	0.1021666	5/9/19 8:33	0.0212738	0.6370794	4.8263E+13	3.0136553	6.70217E+12	0.0010001	0.0299497	3.0136553
793	5999.35	575275	0.1023196	5/9/19 8:38	0.0212738	0.6370794	4.8263E+13	3.018168	6.70217E+12	-0.0026113	-0.0781997	3.018168
794 795	6009.99 6015.23	575276 575276	0.1040749 0.1041657	5/9/19 8:43 5/9/19 8:48	0.0212738 0.0212738	0.6370794 0.6370794	4.75331E+13 4.75331E+13	3.0699468 3.0726234	6.70217E+12 6.70217E+12	0.0003791 0.0045541	0.0113528 0.1363801	3.0699468 3.0726234
796	6006.59	575276	0.1041037	5/9/19 8:53	0.0212738	0.6370794	4.75331E+13	3.0682101	6.70217E+12	0.0020439	0.061208	3.0682101
797	6012.06	575276	0.1040101	5/9/19 8:58	0.0212738	0.6370794	4.75331E+13	3.0710042	6.70217E+12	0.0057903	0.1734002	3.0710042
798	5997.24	575276	0.1038541	5/9/19 9:03	0.021087	0.6314854	4.75331E+13	3.063434	6.70217E+12	0.0154138	0.4615919	3.063434
799	6009.31	575277	0.1048522	5/9/19 9:08	0.021087	0.6314854	4.71754E+13	3.0928732	6.70217E+12	0.007881	0.2360097	3.0928732
800	6014.99	575277	0.1049513	5/9/19 9:13	0.021087	0.6314854	4.71754E+13	3.0957966	6.70217E+12	0.0015859	0.0474924	3.0957966
801	6015.14	575277	0.1049539	5/9/19 9:18	0.021087	0.6314854	4.71754E+13	3.0958738	6.70217E+12	0.0110437	0.330722	3.0958738
802	6010.98	575277	0.1048813	5/9/19 9:23	0.021087	0.6314854	4.71754E+13	3.0937327	6.70217E+12	0.0082541	0.2471828	3.0937327
803	6015.8	575279	0.1061867	5/9/19 9:28	0.021087	0.6314854	4.66328E+13	3.13224	6.70217E+12	0.0098213	0.2941152	3.13224
804	6008.98	575281	0.1036694	5/9/19 9:33	0.021087	0.6314854	4.7711E+13	3.0579847	6.70217E+12	0.0137284	0.4111198	3.0579847
805	6005.02 5992.86	575281 575281	0.1036011 0.1033913	5/9/19 9:38 5/9/19 9:43	0.021087 0.021087	0.6314854	4.7711E+13 4.7711E+13	3.0559695 3.0497812	6.70217E+12 6.70217E+12	0.0148862 0.019156	0.4457921 0.5736583	3.0559695 3.0497812
806 807	6001.7	575281	0.1033913	5/9/19 9:43	0.021087	0.6314854 0.6314854	4.7711E+13 4.7711E+13	3.0497812	6.70217E+12 6.70217E+12	0.019156	0.5736583	3.0497812
808	5996.77	575281	0.1033438	5/9/19 9:48	0.021087	0.6314854	4.7711E+13 4.7711E+13	3.051771	6.70217E+12 6.70217E+12	0.0133476	0.4655988	3.0542799
809	5997.26	575281	0.1034587	5/9/19 9:58	0.021087	0.6314854	4.7711E+13	3.0520204	6.70217E+12	0.0127040	0.3102475	3.0520204
810	5995.19	575281	0.4004045	5/9/19 10:03	0.0217322	0.6508069	4.7711E+13	2.050067	6 700475 40	-0.0001443	-0.0043213	3.050967
811	5995.19	575281		5/9/19 10:08	0.0217322	0.6508069	4.7711E+13			0.0134747	0.4035223	3.050967
812	5978.15	575281		5/9/19 10:13	0.0217322	0.6508069	4.7711E+13		6.70217E+12	0.0153319	0.4591393	3.0422953
813	5989.44	575281		5/9/19 10:18	0.0217322	0.6508069	4.7711E+13			0.016155	0.4837884	3.0480408
814	6001.74	575282		5/9/19 10:23	0.0217322	0.6508069	4.61352E+13			0.0174376	0.522198	3.158626
815	6010.06	575282		5/9/19 10:28	0.0217322	0.6508069	4.61352E+13			0.0234385	0.7019049	3.1630047
816	6009.71	575283		5/9/19 10:33	0.0217322	0.6508069	4.58431E+13		6.70217E+12	0.0203173	0.6084354	3.1829698
817	5995.73	575283	0.1076555		0.0217322	0.6508069	4.58431E+13		6.70217E+12	0.019624	0.5876734	3.1755655
818	6000.73	575284		5/9/19 10:43	0.0217322	0.6508069	4.63618E+13		6.70217E+12	0.0143614	0.4300761	3.142657
819	6007.62	575284	0.1066622		0.0217322	0.6508069	4.63618E+13		6.70217E+12 6.70217E+12	0.0184275 0.0226632	0.5518422	3.1462654
820 821	6006.48 5999.23	575284 575284	0.106642 0.1065133		0.0217322 0.0217322	0.6508069 0.6508069	4.63618E+13 4.63618E+13		6.70217E+12 6.70217E+12	0.0226632	0.6786873 6.0112483	3.1456683 6.0112483
822	6004.02	575284		5/9/19 10:38	0.0217322	0.6527205	4.63618E+13	3.14438	6.70217E+12 6.70217E+12	0.2007318	0.9206414	3.14438
823	60004.02	575284		5/9/19 11:08	0.0217961	0.6527205	4.63618E+13		6.70217E+12	0.0307427	0.8800547	3.1427931
824	6003.38	575284		5/9/19 11:13	0.0217961	0.6527205	4.63618E+13			0.0349274	1.0459592	3.1440448
825	6014.88	575284		5/9/19 11:18	0.0217961	0.6527205	4.63618E+13	3.1500675	6.70217E+12	0.0260766	0.7809072	3.1500675
826	6026.81	575284	0.1070029	5/9/19 11:24	0.0217961	0.6527205	4.63618E+13	3.1563154	6.70217E+12	0.0118225	0.3540445	3.1563154

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Page 1
                IN THE UNITED STATES DISTRICT COURT
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                 IN AND FOR THE DISTRICT OF DELAWARE
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        BEARBOX LLC and AUSTIN
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        STORMS,
                Plaintiffs,
 6
                                      ) Civil Action No.
 7
        vs.
                                      ) 21-534-MN-CJB
        LANCIUM LLC, MICHAEL T.
 8
        MCNAMARA, and RAYMOND E.
 9
        CLINE, JR.,
                Defendants.
10
11
12
                        Wilmington, Delaware
                       Friday, April 22, 2022
13
                      Motion to Strike Hearing
14
                                  and
                      Discovery Dispute Hearing
15
16
     BEFORE: HONORABLE CHRISTOPHER J. BURKE, Magistrate Judge
17
18
     APPEARANCES:
19
                ASHBY & GEDDES, P.A.
20
                BY:
                     ANDREW COLIN MAYO, ESQ.
21
                     and
                MARSHALL GERSTEIN BORUN LLP
22
                BY: BENJAMIN HORTON, ESQ., and
23
                     JOHN R. LABBE, ESQ.
                     (Chicago, Illinois)
                       Counsel for Plaintiffs
24
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Page 22 Page 24 1 was filed and the trade secret counts were dropped. So THE COURT: And it didn't have anything to 2 the trade secrets were no longer at issue in the case 2 do with arbitrage methods at all? 3 when that interrogatory responded to. MR. HORTON: That's correct, Your Honor. But as far as --THE COURT: Okay. Now, to that, the other THE COURT: Mr. Horton, wait. I'm sorry. 5 side, they cite your response to that interrogatory, and 6 Just to back up, you said an architecture of something. 6 I think you've said that the response came after the 7 What was it again? 7 trade secret counts were dropped. But in the 8 MR. HORTON: Yeah. A system architecture, 8 interrogatory, they used the same phrase "BearBox 9 Your Honor. So the way the system would be set up where 9 technology" that you used in the original complaint when 10 different components would be and how they would be 10 referencing the trade secret. 11 interconnected. 11 And then they say, Look, look at their 12 THE COURT: But a system architecture 12 answer. When we asked them what BearBox technology was, 13 relating to what? 13 part of the answer was the sentence beginning on the 14 MR. HORTON: Related to cryptocurrency 14 supplementary answer "Mr. Storms also explained." And I 15 mining. 15 think they're saying what's being described there is THE COURT: I mean, I'm just trying to --16 16 energy value arbitrage. 17 obviously, one thing I'm trying to do here is I'm trying How come they're wrong? In other words, 17 18 to understand in my own mind. Like, a key issue here is 18 they're suggesting that BearBox technology means the 19 defendants say that the plaintiffs were basically talking 19 kinds of methods for energy value arbitrage they're 20 about the types of arbitrage methods that are referred to 20 talking about in the second amended complaint, and 21 in the second amended complaint back in the original 21 they're citing particular parts of your supplemental 22 complaint. 22 answer to demonstrate that. 23 And the plaintiff is saying, No, we 23 Why is their reading of your answer 24 weren't. No, no, we were talking about something else. 24 incorrect. Page 25 Page 23 MR. HORTON: It's incorrect, Your Honor, 1 And so incumbent upon that is to say, Here's what we were 2 talking about. And you can see it's not the specific 2 because that answer does not discuss or reveal the 3 arbitrage method that we're talking about now in the particular method of energy value arbitrage we're talking 4 second amended complaint. But I'm still struggling to 4 about here, nor would it, because at the time we 5 understand what it was you were talking about in the responded to this interrogatory, first of all, no trade 6 first complaint. 6 secret was in the case at all. This architecture, what does it have to do Second of all, we had no reason to 8 with -- what more can you tell me about why the two believe, at that point, that the defendants had 9 things weren't overlapping? misappropriated and were using this particular trade 10 secret. And the particular trade secret, Your Honor, the 10 MR. HORTON: Yeah. Fair enough, Your 11 particular method of energy value arbitrage is very 11 Honor. I'm not doing a good job of explaining that. 12 First of all, it had nothing to do with 12 specific. It involves specific variables, specific 13 energy value arbitrage methods. What it did have to do estimates or computations about specific performance 14 with was more -- when I say "architecture," I'm talking, 14 characteristics of particular machines and how those 15 Your Honor, about how different components are connected values all work together to inform how a system might 16 So, in other words, where servers might be in their 16 determine at what price to buy energy, at what price, 17 relationship in terms of how they're connected to an 17 when to sell it. It's very specific, Your Honor, and 18 electricity grid; where the control center may be with 18 that just wasn't contemplated at the time we responded to 19 respect to those servers in the electricity grid. 19 that interrogatory and that information's not in that 20 Something more high-level, how you set up various 20 answer. 21 21 physical components of a system. THE COURT: I guess when you were 22 THE COURT: So it was about certain 22 responding to the interrogatory, did you understand --23 computer architecture? 23 they're obviously asking you to describe all aspects of 24 24 the BearBox technology. Were you attempting -- and the MR. HORTON: Yeah.

	Case: 23-1922 Document: 39-7 Page: 316 Filed: 01/02/2024										
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2											
3	IN AND FOR THE DISTRICT OF DELAWARE										
4	BEARBOX LLC and AUSTIN STORMS,) Plaintiffs,)										
5	v.) C.A. No.										
6	LANCIDM LLC, MICHAEL T.) 21-534-MN-CJB MCNAMARA, and RAYMOND E. CLINE,)										
7	<pre>JR. Defendants.)</pre>										
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11	Wilmington, Delaware Thursday, October 20, 2022										
12	Markman Transcript										
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16	BEFORE: HONORABLE GREGORY B. WILLIAMS UNITED STATES DISTRICT COURT JUDGE										
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25	Michele L. Rolfe, RPR, CRR										

meaning as we understand BearBox understands the plain and ordinary meaning, because we're not sure what their plain and ordinary meaning actually is. It seems to come from their expert. And this is their expert, Dr. McClellan -- and that's sort of how we got here because we didn't know until we took Mr. McClellan's deposition sort of where they were thinking about going with what they understood the plain and ordinary meaning to be.

And so this is Mr. McClellan here -- Dr.

McClellan. My understanding of a power option agreement is essentially a contract to buy power at a certain price. So if that's the definition and the plain and ordinary meaning they're going with, there's no option and there's no minimum.

So he goes on: To me that's the plain and ordinary meaning of it. Opting to purchase power ahead of a time at a certain rate.

Now, that's slightly different than up here.

And then he goes on: I'm going to pay for that power whether I use it or not. I don't have to use it.

So he's then asked: You said PPA, meaning power purchase agreement, I think the term from the patent is power option agreement. And he answers: I may have used the wrong term. I meant the contracted purchase of power at a certain price.

So his point, I think, Your Honor, was, look, I'm contracted, I must receive it, it must be delivered to me. Because I don't disagree with Mr. Nelson, the point of the power option agreement is the grid wants to be able to balance itself. And so in the event that it needs to call on the option to sort of redirect that delivered power elsewhere; of course that means the power needs to be delivered in the first place. And so I think Dr.

McClellan's testimony is consistent with that.

What I think he was resisting is the notion that that delivered power has to be used to perform computations. When -- his review of the patent, he thinks that the power could be used to, you know, conduct computations, but also to use for infrastructure, shunt to ground. He's reading the patent more broadly in terms of what the power can be used for. I don't think he disputed any point that it needs to be contracted to be delivered.

THE COURT: Well, let me ask you a follow up:

Didn't I read somewhere where Dr. McClellan admitted that he

didn't review the patent?

MR. HORTON: I don't think so, Your Honor. That might have been Dr. McCamant -- or Mr. McCamant.

MR. NELSON: Yeah, I was going to say counsel is correct. So both parties have a technical expert,

Dr. Hasani is ours, Dr. McClellan is BearBox's. And a --

So moving on to minimum power threshold, Your Honor. Again, BearBox's construction has always been plain and ordinary meaning. That was Lancium's construction of the term as well up until the summary judgment brief was filed. That was Lancium's interpretation -- was consistent with BearBox's or at least they didn't dispute it all the way through fact discovery, all the way through expert reports, and only in summary judgment did they raise an issue. Trying to --

THE COURT: Didn't both sides reserve the right to request claim construction in the future if necessary?

MR. HORTON: They did, Your Honor. They did.

So if we're trying to resolve a perceived issue about what the plain and ordinary meaning is, this is an attempt at a compromise to try to harmonize, again, the claim.

A minimum power threshold, BearBox's proposes would be a minimum amount of power delivered to a load unless the power entity exercises the option. And, again, the option would be discussed in the previous plain and ordinary meaning of power option agreement.

What we want to be clear about here, though, is that a minimum power threshold may be zero. We didn't think this was controversial until the summary judgment briefing, because the patent is so clear about that.

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PROCEEDINGS

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(REPORTER'S NOTE: The following pretrial hearing was held in Courtroom 6-B, beginning at 3:00 p.m.)

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THE COURT: Good afternoon. You may be seated.

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All right. So we're here for the final pretrial

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Civil Action No. 21-534.

appearances on the record.

Horton and John Labbe.

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There's a three-day bench trial scheduled to start on Tuesday, December 6th at 9:00 a.m.

conference in BearBox LLC, et al versus Lancium LLC, et al.

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So I have reviewed the proposed pretrial order

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and -- go through the various sections and see what needs to

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be done and then decide on the motions in limine.

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So let's start by having counsel put their

submitted by the parties and I just want to go through

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MR. MAYO: Good afternoon, Your Honor.

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THE COURT: Good afternoon, Mr. Mayo.

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MR. MAYO: Andrew Mayo from Ashby & Geddes on

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behalf of plaintiffs BearBox and Mr. Austin Storms. I'm

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joined today by my co-counsel from Marshall Gerstein Ben

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MR. LABBE: Good afternoon.

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MR. BURTON: Good afternoon, Your Honor.

William Burton of Barnes & Thornburg on behalf of defendants. With me today is Mark Nelson, Adam Kaufmann and Derrick Hooker all from Barnes & Thornburg and all have been admitted pro hac.

Mr. Stover wanted me to let you know he's with Judge Fallon right now, but he does intend on joining us once that's over.

THE COURT: Okay.

So first with respect to trial exhibits and objections thereto, I see that the parties have separate list of exhibits. What I'd like the parties to do is to meet and confer and compile a joint -- a common list of exhibits in an attempt to reach agreement on any remaining objections.

The common list of exhibits should be filed no later than Friday, December 2nd, along with a list of any exhibits that remain in dispute. And for those that remain in dispute, I want the specific objections to the proposed exhibit with citations and any response to those objections with citations.

With respect -- you know, the purpose is to narrow the objections down as much as possible and to have -- it looks like many of the exhibits are the same, so instead of having plaintiffs and defendants, let's just have a common exhibit list.

And then to the extent that there are some

exceptions where you guys just can't reach an agreement,

then we can have them as, you know, Plaintiffs Exhibits and

Defense Exhibits, but the record will be clearer with as

5 many common exhibits as we can have.

Next with respect to demonstrative exhibits, any party proposing to use demonstrative exhibits during their examination of witnesses should produce the proposed demonstrative to the other side at least 24 hours in advance before its intended use and meet and confer about any proposed objections.

If the parties cannot reach agreement on demonstratives, it should be brought to the Court's attention for resolution prior to the start of the hearing on the proposed demonstratives to be used.

Next with respect to witnesses, are there any significant disputes with respect to the calling of any witnesses identified by either side that the Court needs to resolve?

In looking at the witness list, none was apparent to me.

MR. NELSON: Your Honor, there's one issue that's come up, I don't think it's going to be a problem, but Rachel Arndt is on the may call list for defendants. It came to our attention last night that she is likely

unavailable. She lives in Chicago and her husband is out of town this time period when the trial is going to occur and she doesn't have anybody to watch her kids.

I think it's unlikely -- I brought this up to opposing counsel this morning. I think it's unlikely we will call her, given the current posture of the case, but she is amendable to appearing by Zoom or some other method in the event she were to be called if the Court would consider that.

THE COURT: Okay. If it is necessary to call her, she's on the may call list, so if it becomes an issue where you need to -- where defendants decide they want to call her, defendants should confer with counsel for plaintiffs to see whether they have any objection to her appearing remotely. And if you guys can't reach agreement on it, then I'll weigh in on it. Hopefully the parties will be able to reach agreement if necessary.

MR. NELSON: Thank you, Your Honor.

THE COURT: Any other issues with respect to witnesses?

MR. HORTON: Your Honor, we have designated in the pretrial order that we intend to call in our case-in-chief by deposition some limited deposition designations from two of the defendant's witnesses. We discussed that with counsel today during a meet and confer,

and counsel didn't have a position whether they were going to object or not to that. So we wanted to raise that as a potential issue as well.

THE COURT: Okay. So what's the issue with respect to deposition designations?

MR. NELSON: Well, Your Honor, we were -- we wanted some time to research the issue. It's my experience that some courts permit deposition designations to be played when the witnesses are also present live and other courts do not. And if plaintiff wants to call an adverse witness in their case-in-chief, then they call the person live. And I don't know what Your Honor's preference is at all, but we wanted to research the issue to make a decision.

THE COURT: Right. Did you intend to call these witnesses live as well?

MR. HORTON: No, Your Honor, just limited deposition testimony. The rule -- the rule on point, we think, on some point here, Your Honor, is Rule 32(a)(3). And the witnesses that we're talking about here, Your Honor, are also parties to the case, and that's what we believe Rule 32(a)(3) covers.

THE COURT: Okay. Are these witnesses that the defendants will call as well?

MR. HORTON: I believe so, Your Honor, but I --

MR. NELSON: Who is it; is it Cline and

McNamara?

MR. HORTON: Yes, that's correct.

MR. NELSON: Yeah, I think it's highly likely we'll call both McNamara and Cline.

THE COURT: Okay. So if these witnesses are going to be live witnesses, why not just call them as cross in your case-in-chief?

MR. HORTON: Rule 32(a)(3), Your Honor, says that we can use the parties' testimony taken by deposition for any purpose; and so that's the purpose we'd like to use it for.

We also think it would be more efficient and orderly for those pieces of information and authentication of documents to be done by deposition rather than through, for example, cross-examination or calling an adverse witness live.

THE COURT: Okay.

All right. You said you may do it or are you sure you're going to do it?

MR. HORTON: I think we're sure we're going to do it, Your Honor.

THE COURT: Okay.

All right. So, defendants, you wanted some time to look at the issue further. Let me know your position, defendants, on it by noon on Friday.

MR. NELSON: Yes, Your Honor.

One thing that would help us -- and I don't know if you're willing to do this or not -- was to know what portions of the depo designations they intend to play.

Because if it's simply authenticating documents or something like that, you know, that may well be something that we're more likely to agree to than significant portions of depositions that we think might be out of context or whatever.

I don't know if it's something you're willing to do is to tell us what you're going to play in advance so we can have a better feel for whether we're going to object or not.

MR. HORTON: So, Your Honor, we've exchanged deposition designations, as Your Honor probably knows those start out broad and they get narrowed through the process.

We're in the process of narrowing that. I believe under the current pretrial order that we proposed, we would have to provide the actual designations we intend to play by Saturday.

THE COURT: Yes.

MR. HORTON: So that is our plan.

THE COURT: Okay.

All right. And then the defendants will have an opportunity to designate their counter-designations. So it

sounds like by Saturday plaintiffs will let defendants know the specific designations that they proposed to play. Is it video as well?

MR. HORTON: That's correct, Your Honor, yes.

THE COURT: Okay. And then defendants will have the opportunity to counter-designate or raise any objections that you have and if it's -- so why don't we make defendants -- if there's still an issue by Monday morning, you get me your position. And if it's something that I need to resolve, you'll let me know.

MR. NELSON: That sounds good, Your Honor. Thank you.

THE COURT: Okay. And the next topic was going to be deposition designations, so parties are going to continue to meet and narrow your deposition designations and any objections to it.

Any proposed deposition designations that either side intends to present should be presented to the other side in accordance with the instructions of the Court; and, thereafter, the opposing side has the opportunity to make counter-designations.

And if there's still any objections, the parties should bring it to the Court's attention before the day that the counter-designations are proposed to be read into the record.

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Next is just time allocation. It's a three-day bench trial, so basically we're dealing with about 20 hours. Each side will be allocated a total of one hour for opening and closings. Each side will be allocated up to seven-and-a-half hours to present their case or their defense case-in-chief and rebuttal through testimony. So seven-and-a-half hours total each side. Sidebar objections will be charged to the parties. With respect to openings and closings, you know, it's a bench trial, you can decide whether or not you want to give an opening or closing, but, you know, we'll just set aside one hour. If you decide that you don't want it and would rather have that time in your presentation of your case, just let me know and we can have that time added to you. But the parties should meet and confer about that and let me know about that prior to the start of trial. MR. NELSON: Your Honor, may I ask a question? THE COURT: Sure. MR. NELSON: I think I know the answer, but when

or the total?

THE COURT: I mean each.

MR. NELSON: So one hour openings and one hour

you say one hour for openings and closings, do you mean each

for closing?

THE COURT: No, one hour per side.

MR. NELSON: Okay.

THE COURT: You can divvy up your hour between opening and closing as you like.

MR. NELSON: All right. Thank you.

THE COURT: All right. Moving to the motions in limine. I've reviewed the motions in limine.

I'll start with plaintiff's motion in limine one, which is motion in limine to preclude defendants from presenting evidence, testimony or argument at trial about any of their patents, patent applications or inventions other than the '433 patent.

That motion in limine is denied. Evidence of Lancium's '632 application and other evidence of Lancium's patent portfolio is relevant to plaintiff's claims and defendant's defenses thereto, and its probative value is not substantially outweighed by the danger of unfair prejudice.

Moving to plaintiff's motion in limine two,
which is the motion in limine to preclude defendants from
presenting evidence, testimony or argument at trial about
any purported conception of any element of the inventions
claimed in the '433 patent that defendants withheld during
fact discovery.

That motion in limine is denied. Lancium

provided over 30 pages of dates and evidence supporting their claim of conception of the '433 patent. Lancium later provided additional evidence on an element-by-element basis through Dr. Ehsani's expert report. After Lancium supplemented its response to Interrogatory No. 3, BearBox never moved to compel for any alleged deficiency in the response, thus Lancium had reason to believe its response was sufficient. And the *Pennypack* factors favor inclusion of the evidence.

Moving to plaintiff's motion in limine number three, which is motion in limine to preclude defendants from presenting evidence, testimony or argument at trial suggesting that plaintiffs cannot prove inventorship or conversion by relying on nonconfidential information.

That motion in limine is granted in part; denied in part. Lancium is able to present evidence, testimony or argument about the public nature of BearBox's disclosures, which is relevant to Lancium's defense against BearBox's claim of joint inventorship, i.e., to prove there was no collaboration between Lancium, including McNamara and/or Cline and Mr. Storms. However, Lancium cannot make blanket statements that the alleged public nature of BearBox's disclosures precludes a finding of joint inventorship. Such a statement is not supported by the law. See the Dana-Farber case, 964 F.3d, 1365 at 1371 to 1372.

Moving to Lancium's first motion in limine, which is a motion in limine to preclude expert testimony inconsistent with the Court's claim construction ruling and to include new expert testimony or opinions outside the scope of expert's reports.

That motion is granted in part; denied in part.

Defendant's motion in limine number one is granted in part to the extent it seeks to preclude Dr. McClellan from testifying inconsistently with the Court's Markman opinion.

Ultimately, any concern of prejudice can be adequately addressed during trial by proper objection or through cross-examination of Dr. McClellan.

Defendant's motion in limine number one is denied in part as moot based on the Court's November 23rd order striking Dr. McClellan's supplemental report.

Moving to Lancium's motion in limine number two, which is a motion in limine to preclude plaintiffs from using pejorative terms like "thief, theft, steal, stealing or robbery."

Defendant's motion in limine number two is denied as moot. Conversion is no longer a claim to be tried and this is no longer a jury trial.

Moving to Lancium's motion in limine number three, motion in limine to preclude any argument or evidence regarding discovery disputes. The ruling is that neither

side should refer to Lancium's source code or any discovery dispute related to such matter.

At the same time, Lancium cannot not produce such information but try to use such information in its defense.

BearBox cannot refer or attempt to use any discovery the disputes.

That's all the rulings on the motions in limine.

That is all that I had on my list.

Anything else that counsel believes that we need to discuss this afternoon?

One thing I need to raise is set up of electronic equipment. The parties requested that the Court grant them access to the courtroom on Monday, December 5th to allow the parties to set up electronic and computer devices to be used during trial. That's fine. There's nothing on the Court's schedule in this courtroom on that date, so the parties will be granted access to set up their electronic equipment.

Just call chambers and coordinate to make sure the courtroom is open so that you can set up your equipment.

MR. HORTON: Your Honor, one other -- it may be too early to ask, but we wanted to ask about post-trial briefing for conclusions of law and those findings of fact.

We started to discuss this with opposing counsel and we

didn't know whether you would prefer sequential briefing or simultaneous briefing. And I think the one thing we're in agreement on is that we'd like to ask for maybe five to six weeks for the opening briefs to put them a little after the holidays, the next round wouldn't be due until thereafter. We're sort of in agreement on that.

If that's amendable to Your Honor, we can put a proposed schedule, but I think we need your guidance on your preference for -- I think our preference would be sequential briefing, I can't speak -- we didn't reach an agreement on that aspect of anything, but our preference would be that we would file briefs, they would respond and then we would have an opportunity to reply as well as the plaintiffs.

MR. NELSON: And so I guess we are in agreement with the other side with respect to trying to have post-trial briefing done sort of after the holidays. It would be our preference, I think, to have simultaneous briefing or if it is sequential briefing we would get a sur-reply so each side would get the same number of papers.

THE COURT: Okay. I'm fine with the schedule after the holidays.

You guys meet and confer and set a proposed order.

With respect to whether simultaneous or sequential, I think it would be more -- it's more productive

for the Court to have sequential briefing, but I will grant your request for sur-reply so that each side has the same amount of times to address the Court.

MR. NELSON: Thank you, Your Honor.

MR. HORTON: Okay. I think with that advice, we can meet and confer and put together a proposal.

MR. NELSON: One more pretrial issue, Your Honor.

THE COURT: Go ahead.

MR. NELSON: How does the Court prefer that we bring up judgment as a matter of law, motion for directed verdict, things like that during the course of once they rest, assuming that we would make such a motion and then again once we rest.

THE COURT: Yes. Just make your motion orally and let me know that you're making your motion. I assume that you'll follow up with, you know, written papers. So if I have it then you can make your motion and hand up your written submission. If you're going to do it -- a follow up, you know, after your oral -- at some later date, you know, let me know.

MR. NELSON: Okay. It would be our preference to do it at a later date and make the motions orally at the time just to preserve the record.

THE COURT: Okay. But they should be -- they

1 will be due within -- the written submissions will be due 2 within five days after the completion of trial. 3 MR. NELSON: Five days, Your Honor? 4 THE COURT: Yes. Five -- so seven days, yes. 5 So a week after the completion of the trial. 6 MR. NELSON: Thank you, Your Honor. That's 7 fine. 8 THE COURT: Anything else? 9 MR. HORTON: I guess I'll raise it, it is our 10 position that there's no such thing as a motion for a 11 directed verdict or for judgment as a matter of law for a 12 I think the rule specifically says with bench trial. 13 respect to a jury trial, so that would be our position with 14 respect to those motions that they wouldn't be appropriate 15 for a bench trial. 16 THE COURT: Okay. 17 All right. We'll take it under advisement. Ιf 18 that is indeed the law, then it's easy to denial. 19 MR. NELSON: Okay, thank you, Your Honor. 20 THE COURT: Anything else? 21 MR. HORTON: No, Your Honor. 22 THE COURT: All right. 23 MR. NELSON: No, Your Honor. 24 THE COURT: All right. We will recess.

We'll look for your proposed orders and we'll

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